



or Presence of Ascorbate Alone or in Addition to Gly-Gly Gamma Irradiation of Liquid IGIV in the Absence

Liquid IGIV, Reduced 5-15%

FIG. 1A





Gamma Irradiation of Liquid IGIV in the Absence or Presence of Ascorbate Alone or in Addition to Gly-Gly

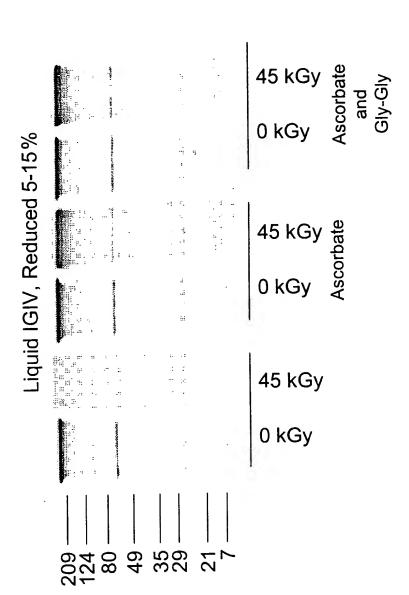
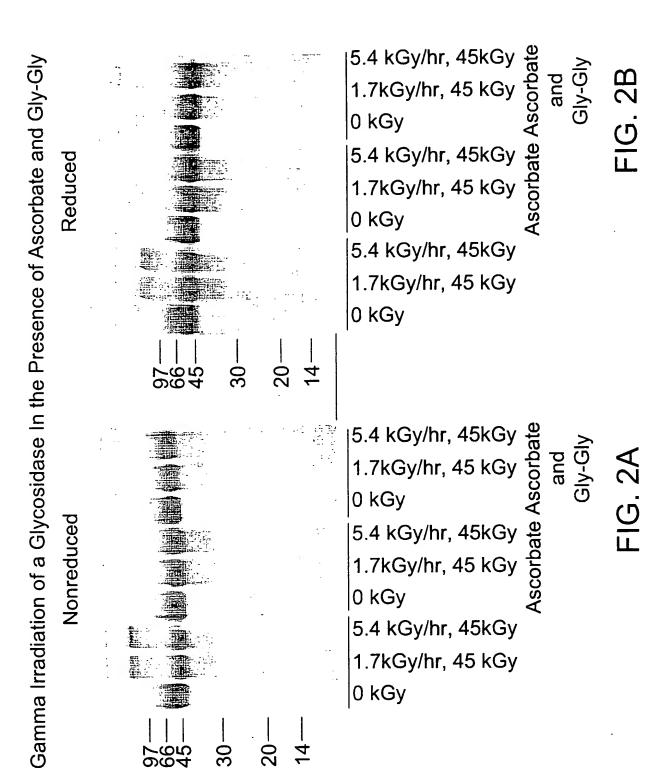


FIG. 1B



Gamma Irradiation of a Sulfatase In the Presence of Ascorbate and Gly-Gly

Reduced



5.4 kGy/hr, 45kGy apply 1.7kGy/hr, 45 kGy open 5.4 kGy/hr, 45kGy apply 1.7kGy/hr, 45kGy open 5.4 kGy/hr, 45kGy 5.4 kGy/hr, 45kGy 1.7kGy/hr, 45kGy 1.7kGy/hr, 45kGy 0 kGy

FIG. 3



Gamma Irradiation of a Galactosidase In the Presence or Absence of Ascorbate Alone or in Combination with Gly-Gly

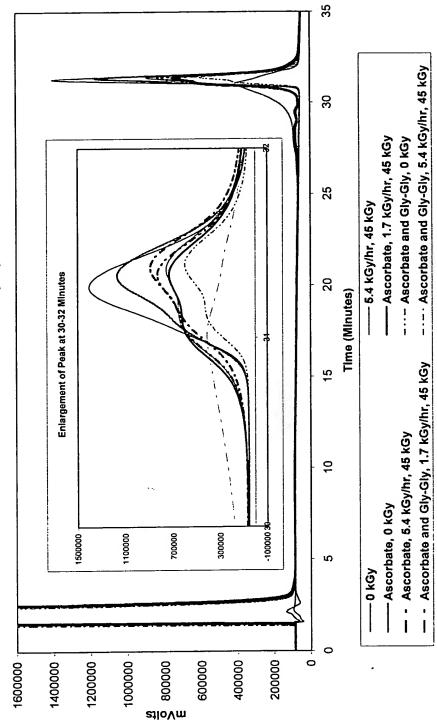


FIG. 4



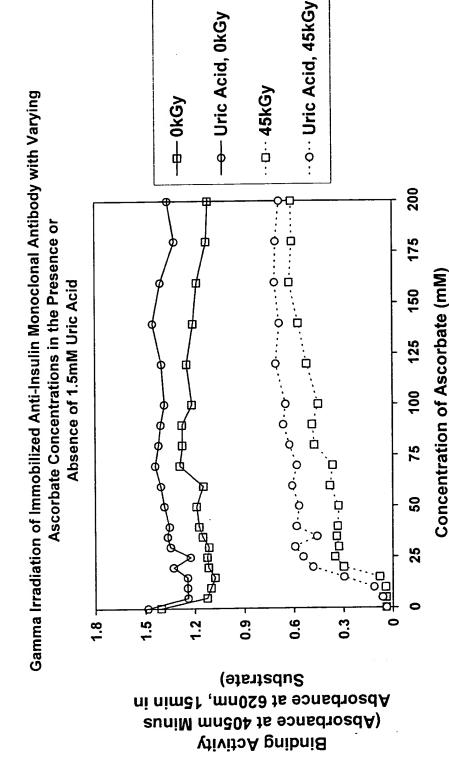
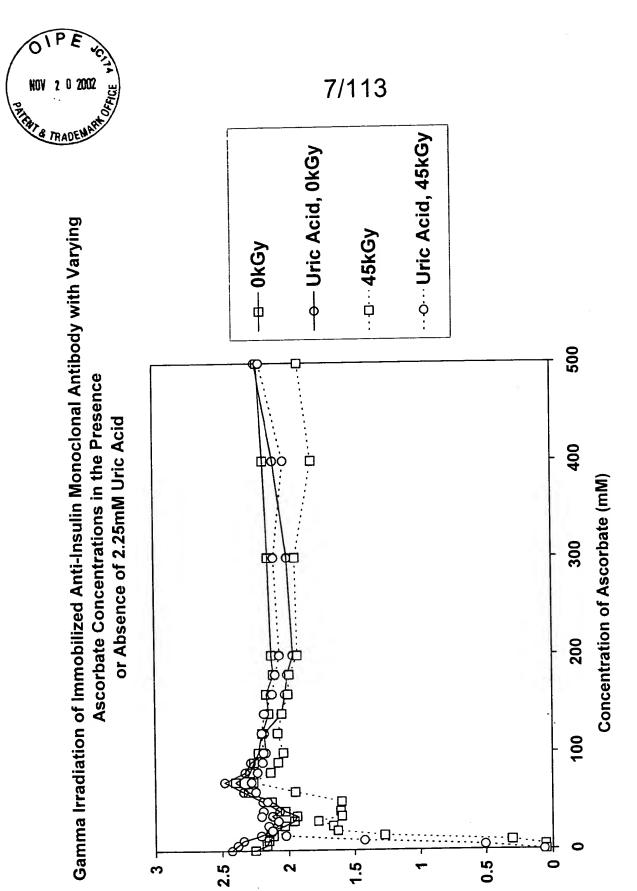


FIG. 5



Binding Activity (Absorbance at 405mm Minus Absorbance) (Absorbance at 45mm, 15min in substrate)

FIG. 6A



Gamma Irradiation of a Lyophilized Galactosidase In the Absence of Stabilizers

Reduced & Non-Reduced, 10%

	Non-Reduced	50 kGy 30 kGy 10 kGy 0 kGy
200— 116— 97— 45—	22— 14— Reduced	50 kGy 30 kGy 10 kGy 0 kGy

FIG. 6B



Gamma Irradiation of a Lyophilized Galactosidase In the Presence of 200mM Ascorbate Reduced & Non-Reduced, 10%

10 kGy 10 kGy

FIG. 6C



Gamma Irradiation of a Lyophilized Galactosidase In the Presence of 200mM Ascorbate and 200mM Gly-Gly

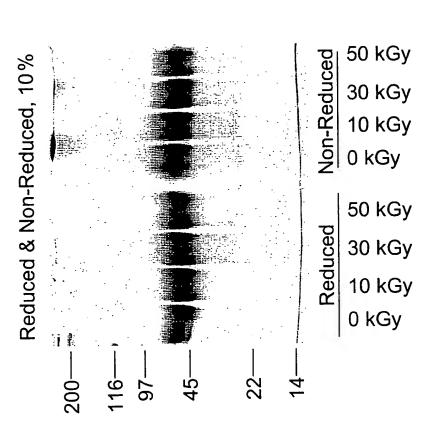


FIG. 7A

9



Gamma Irradiation of a Galactosidase in the Absence or Presence of Ascorbate Alone or in Combination with Gly-Gly

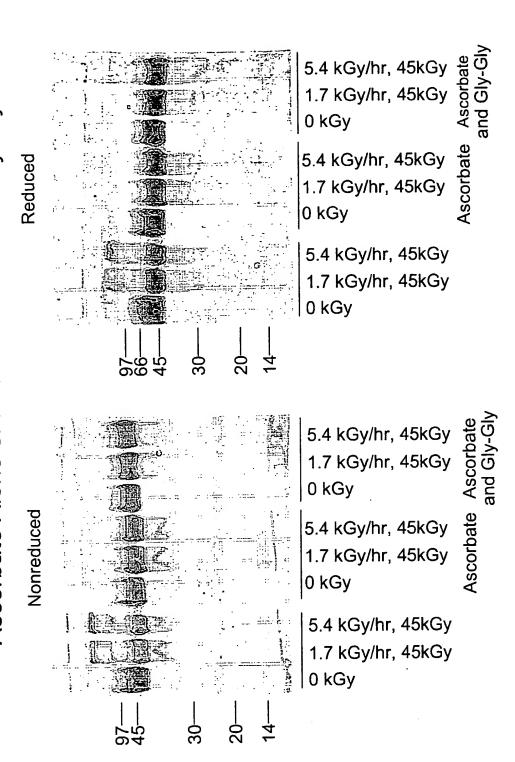


FIG. 7B

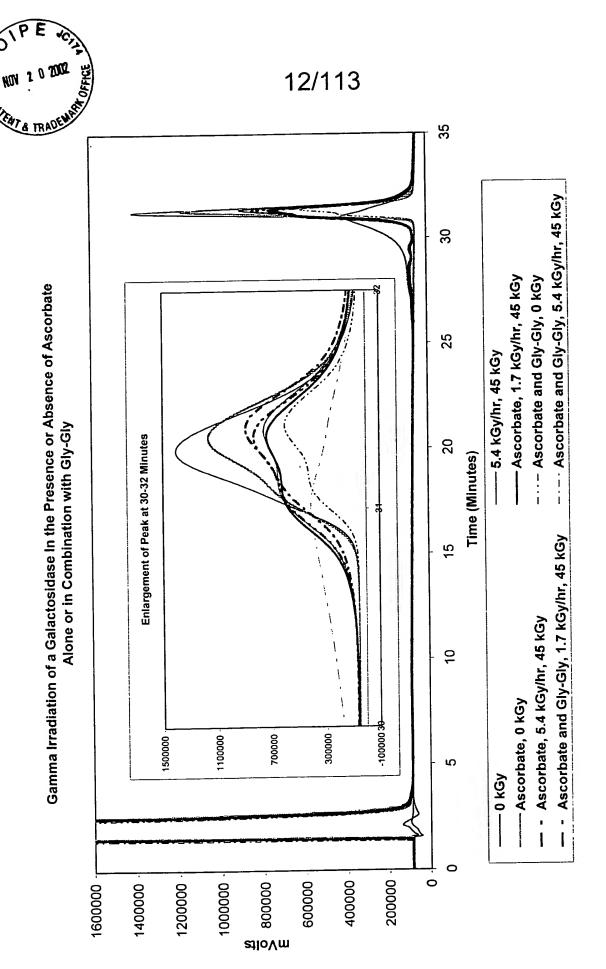


FIG. 8



Gamma Irradiation of a Lyophilized Galactosidase in the Absence and Presence of 100 mM Ascorbate

209 —

						1
					45 kGy	With Ascorbat
					0 kGy	
	***				45 kGy	Without Ascorbat
					0 kGy	71000.201
4		 6	2			
12,	æ	4	က်က်	2		

FIG. 9



Gamma Irradiation of a Lyophilized Galactosidase In the Absence of Stabilizers

Reduced and Non-Reduced, 10%

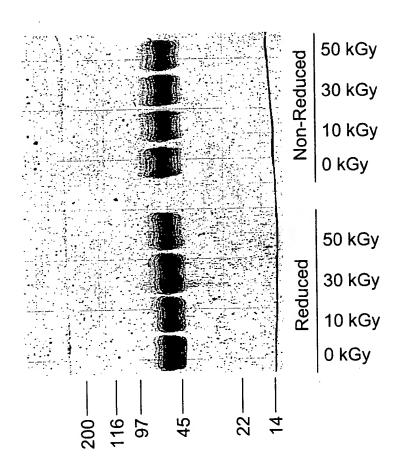


FIG. 10A



In the Presence of 200mM Ascorbate and 200mM Gly-Gly Gamma Irradiation of a Lyophilized Galactosidase

Reduced and Non-Reduced, 10%

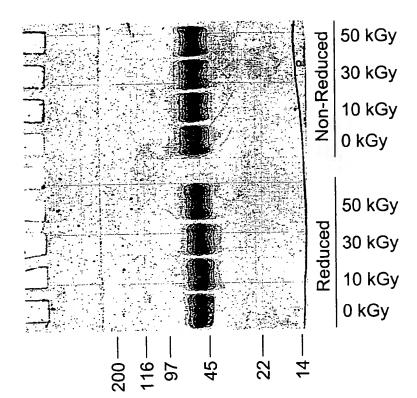
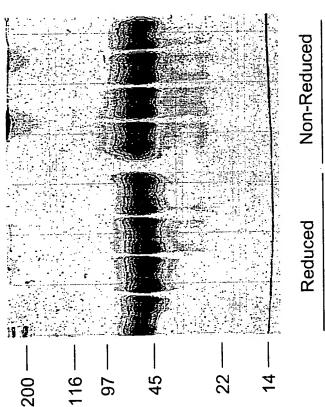


FIG. 10B



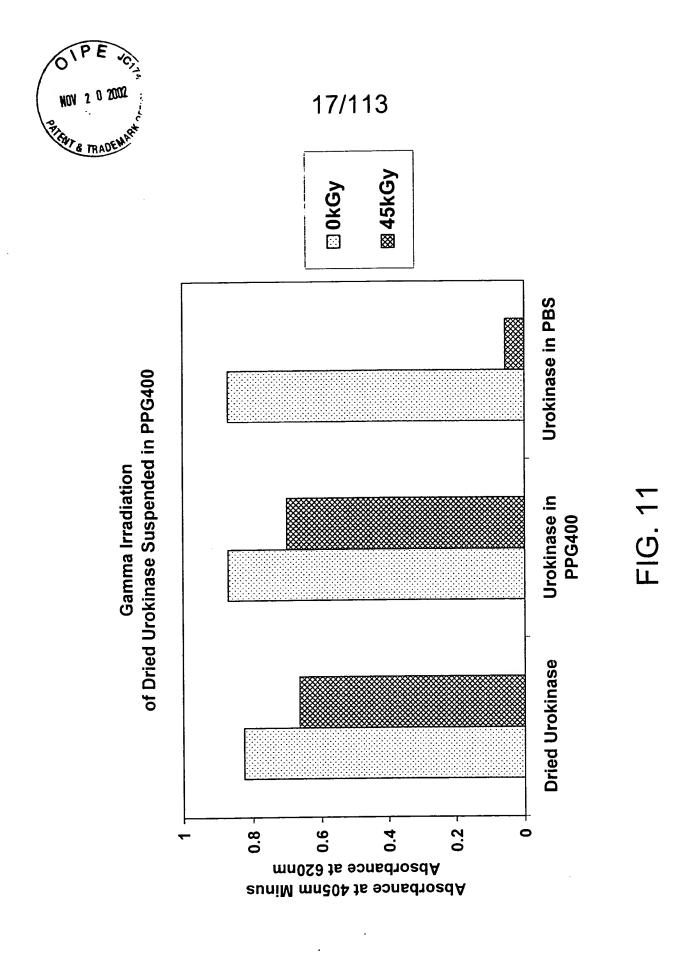
In the Presence of 200mM Ascorbate and 200mM Gly-Gly Gamma Irradiation of a Lyophilized Galactosidase

Reduced & Non-Reduced, 10%



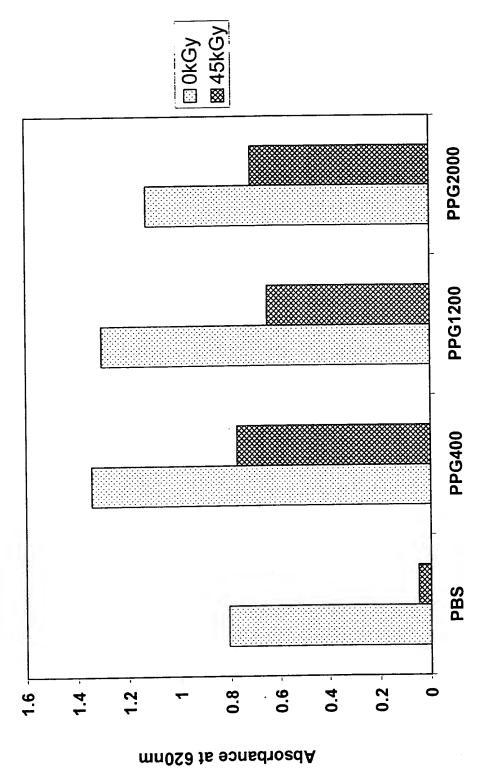
Pednced So kGy 30 kGy 10 kGy 50 kGy 30 kGy 10 kGy 0 kGy

FIG. 10C



HOV 2 0 2002 WE

Gamma Irradiation of Immobilized Monoclonal Antibody in the Presence of Various PPGs

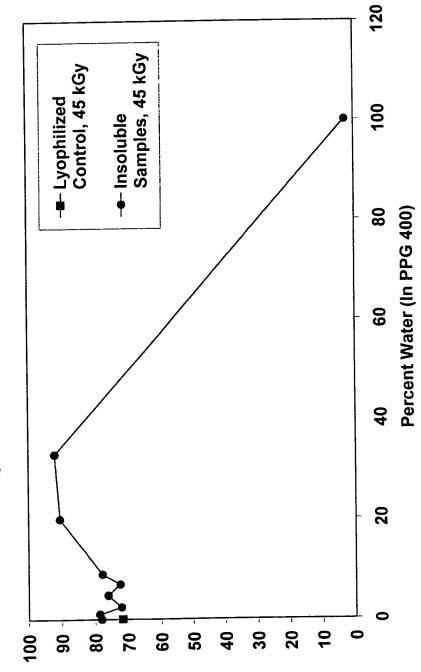


Absorbance at 405nm Minus

FIG. 12

18/113

Gamma Irradiation of Trypsin In the Presence of Increasing Amounts of Added Moisture



Percent Protection (Activity of Irradiated Sample / Activity of Unirradiated Sample)

FIG. 13

Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PPG 400

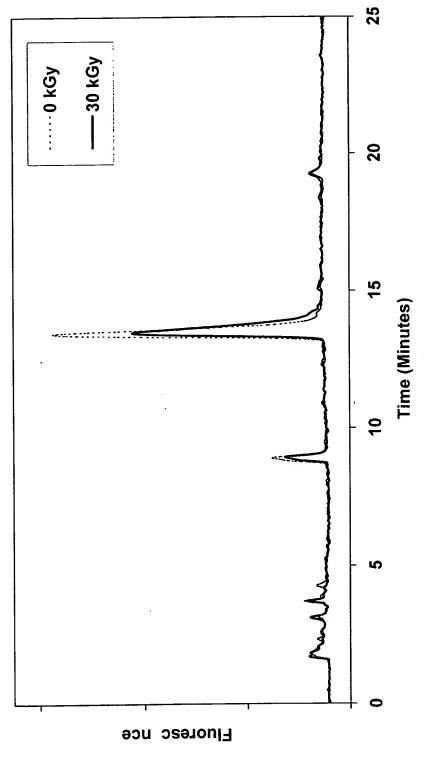
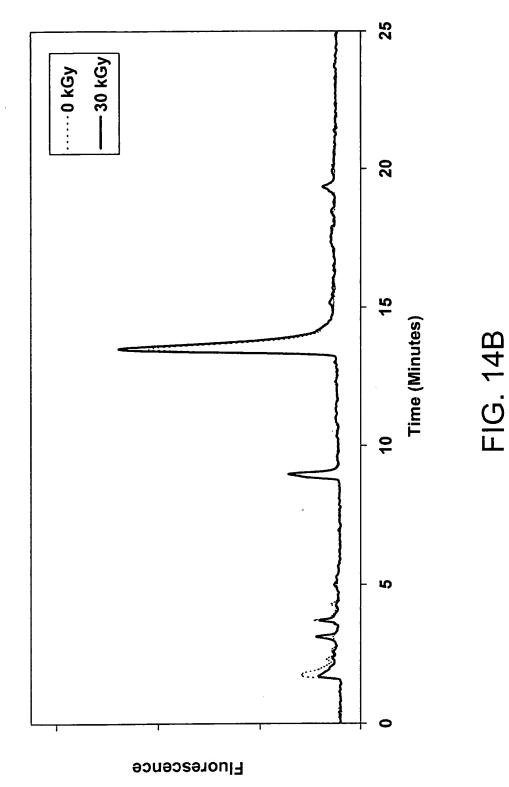


FIG. 14A

Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PPG 400 and 125 mM Trolox C





Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PPG 400 and a Stabilizer Mixture of 62.5mM TroloxC, 100mM Lipoic Acid, 100mM Coumaric Acid, and 100mM n-Propyl Gallate

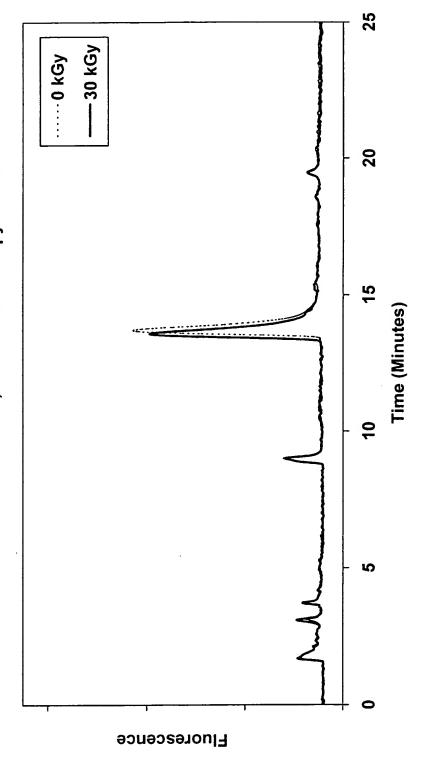


FIG. 14C



Gamma Irradiation of Porcine Heart Valve Cusps in the Presence of PPG400 with Various Stabilizers



1. Molecular Weight Markers

2. Blank

且是近了了

Reduced

- 3. PPG400, 0 kGy
- 4. PPG400, 30 kGy
- 5. PPG400 and TroloxC, 0 kGy
- 6. PPG400 and TroloxC, 30 kGy

22____÷

36.8

52.3 -

119-

98

205 -

- 7. PPG400 and a Cocktail of TroloxC, Lipoic Acid, Coumaric Acid, and n-Propyl Gallate, 0 kGy
- 8. PPG400 and a Cocktail of TroloxC, Lipoic Acid, Coumaric Acid, and n-Propyl Gallate, 30kGy

 ∞



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PBS

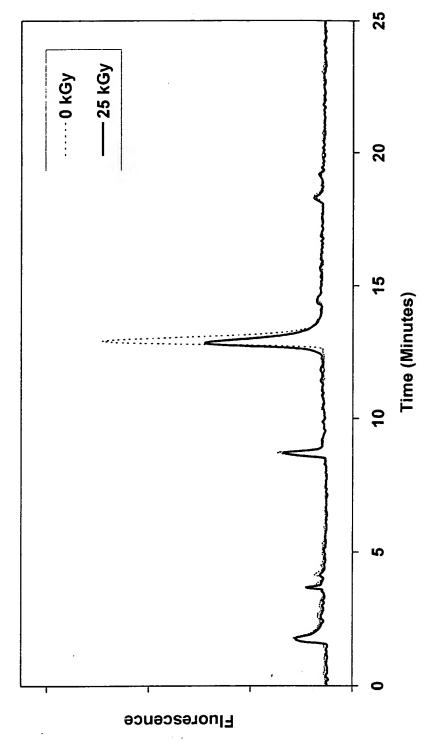


FIG. 15A

Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PPG 400

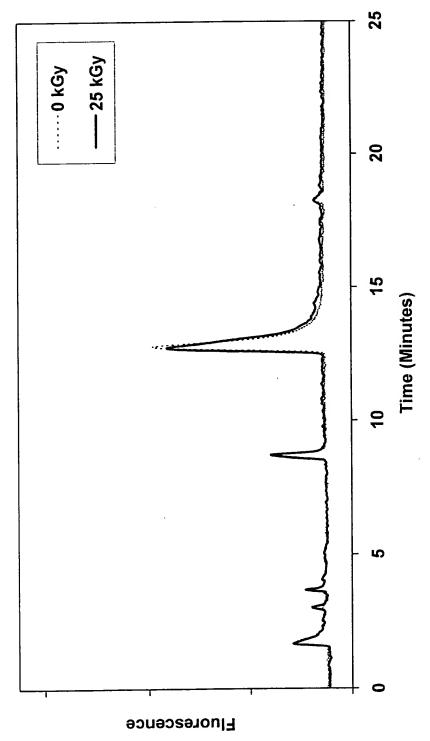


FIG. 15B



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of 50% DMSO

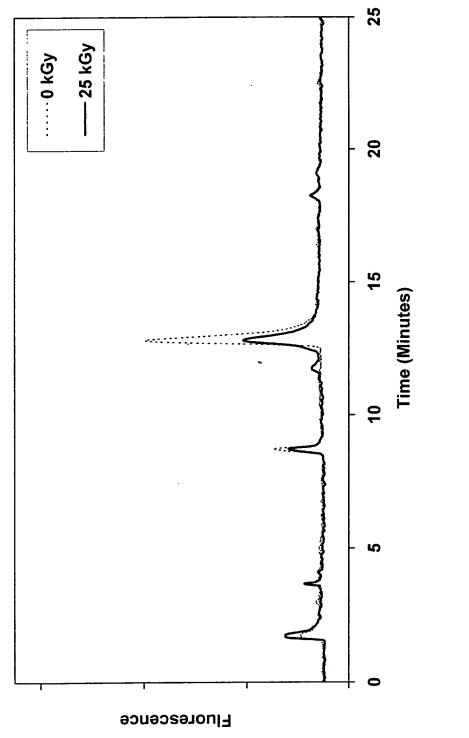


FIG. 15C



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of 50% DMSO and a Stabilizer Mixture of 167 mM Ascorbate, 166 mM Coumaric Acid, and 100 mM n-Propyl Gallate

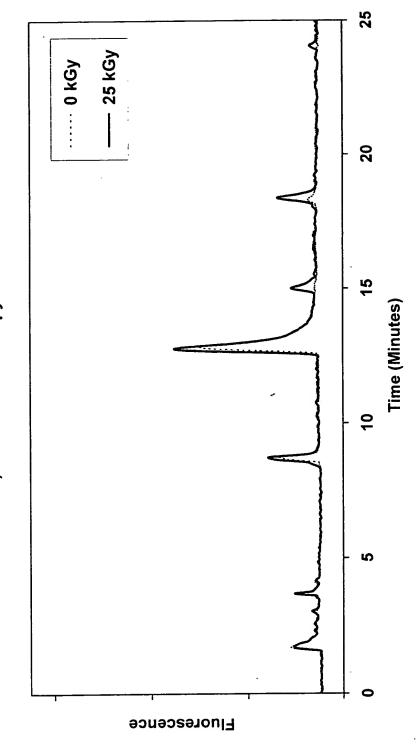
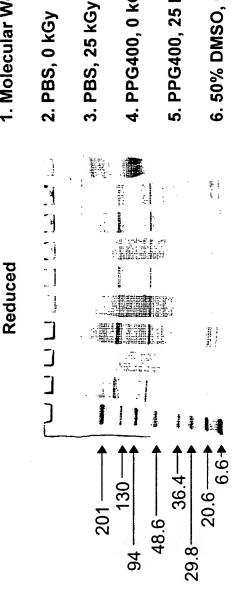


FIG. 15D



Gamma Irradiation of Porcine Heart Valve Cusps in the Presence of Various Solvents



- 1. Molecular Weight Markers
- 4. PPG400, 0 kGy
- 5. PPG400, 25 kGy
- 6. 50% DMSO, 0 kGy
- 7. 50% DMSO, 25 kGy
- Coumaric Acid, and n-Propyl Gallate, 0 kGy 8. 50% DMSO and Cocktail of Ascorbate,

9 ∞

7 9

S

Coumaric Acid, and n-Propyl Gallate, 25 kGy 9. 50% DMSO and Cocktail of Ascorbate,

FIG. 15E

Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PBS

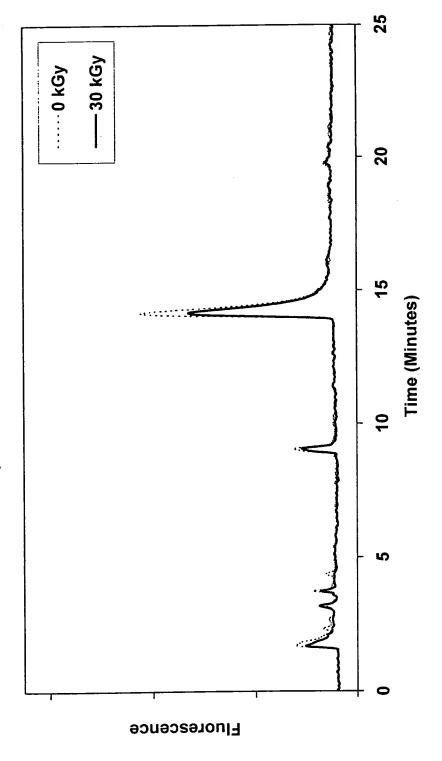
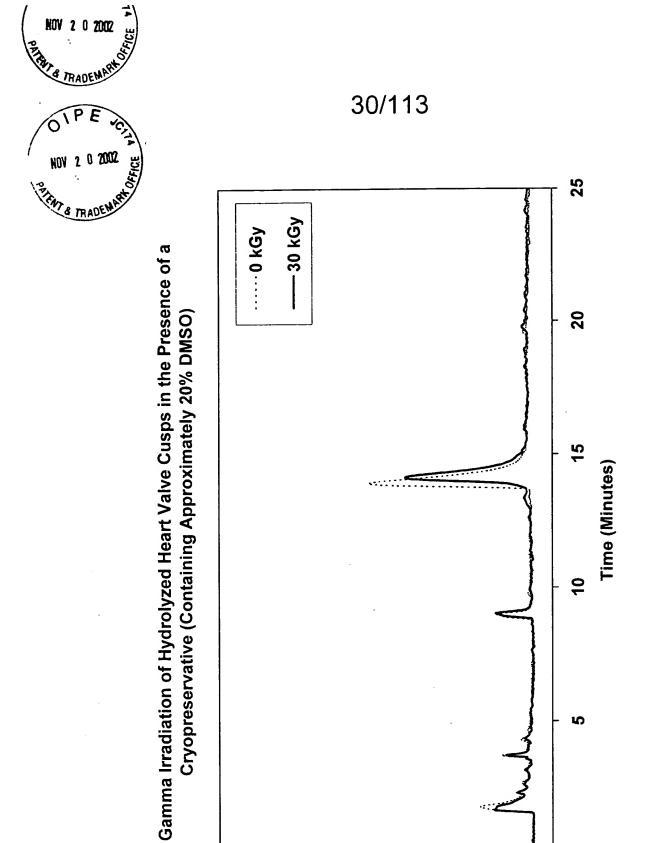


FIG. 16A



Fluorescence

FIG. 16B



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of 50% DMSO

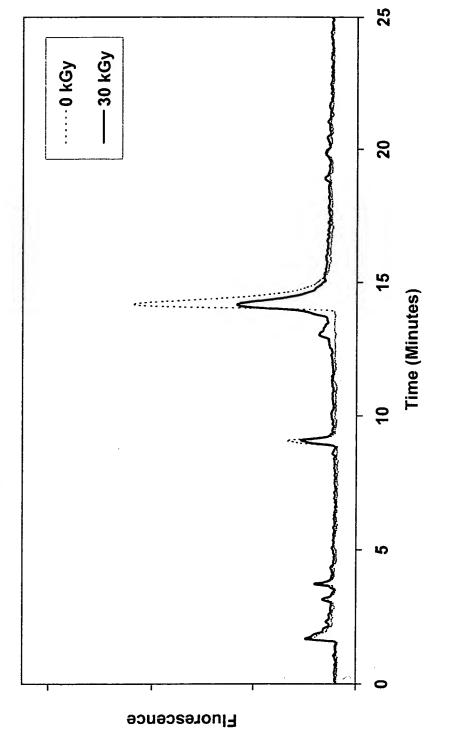
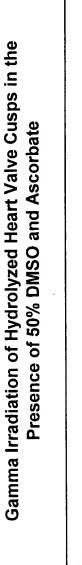


FIG. 16C





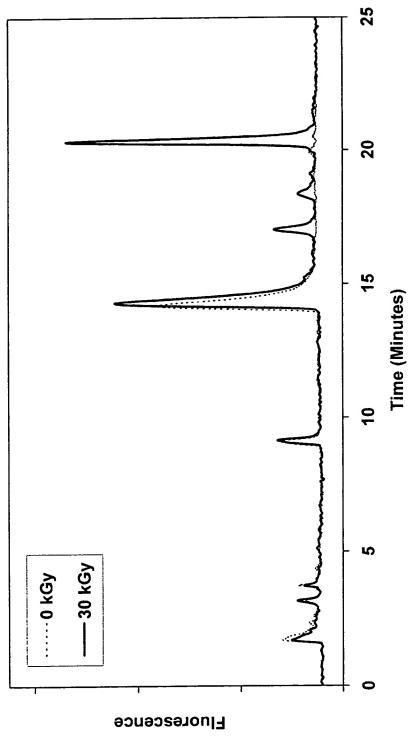
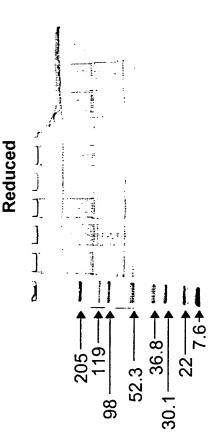


FIG. 16D



Gamma Irradiation of Porcine Heart Valve Cusps in the **Presence of Various Solvents**



- 1. Molecular Weight Markers
- 2. Cryopreservative, 0 kGy 3. Cryopreservative, 30 kGy
- 4. PBS, 0 kGy 5. PBS, 30 kGy
- 6. 50% DMSO, 0 kGy 7. 50% DMSO, 30 kGy
- 8. 50% DMSO and Ascorbate, 0 kGy 9. 50% DMSO and Ascorbate, 30 kGy

 ∞

FIG. 16E



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PBS

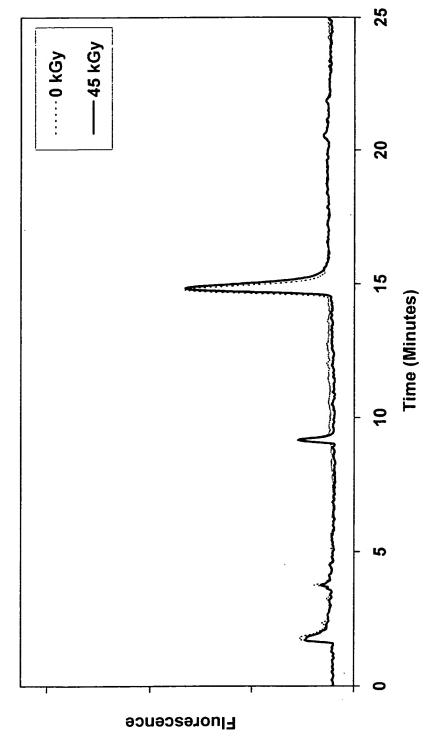
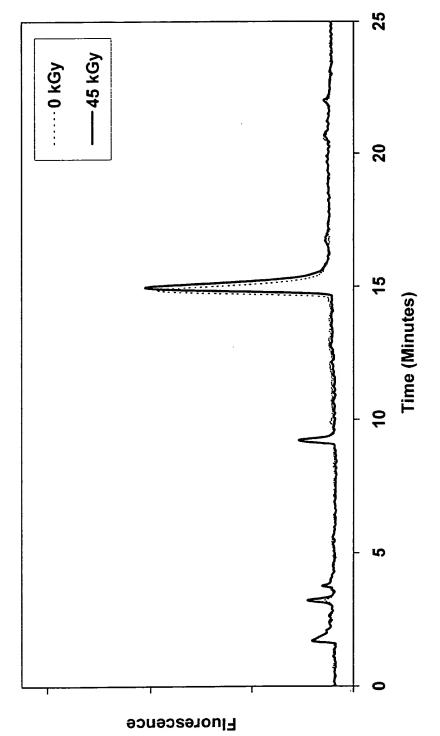


FIG. 17A

Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PBS and Ascorbate



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of PPG 400

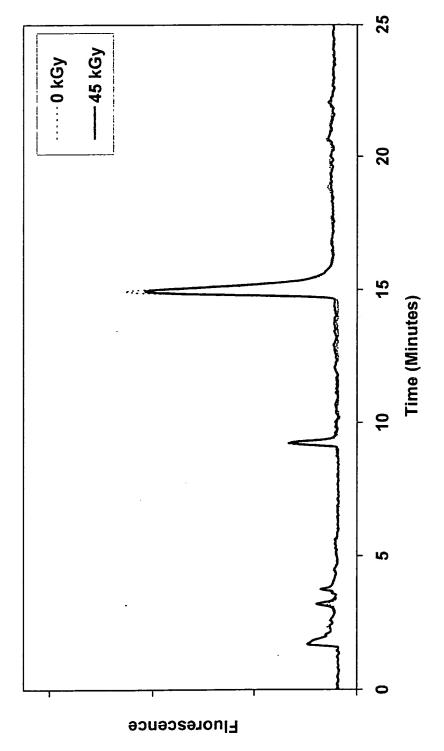


FIG. 17C



Gamma Irradiation of Hydrolyzed Heart Valve Cusps Dehydrated with PPG 400 and Rehydrated in the Presence of PBS and Ascorbate

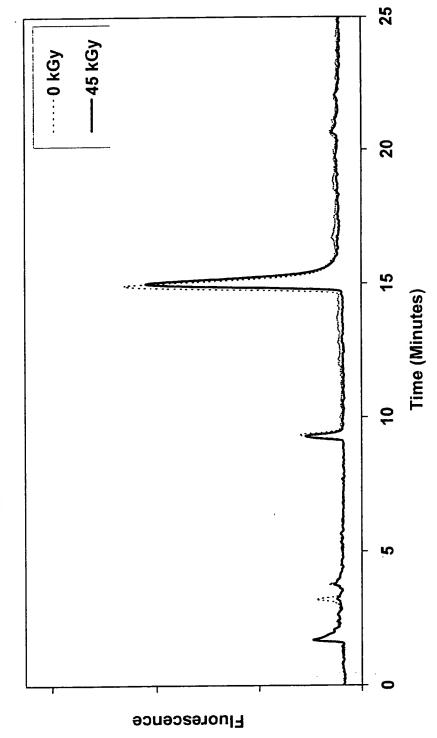


FIG. 17D



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of 50% DMSO

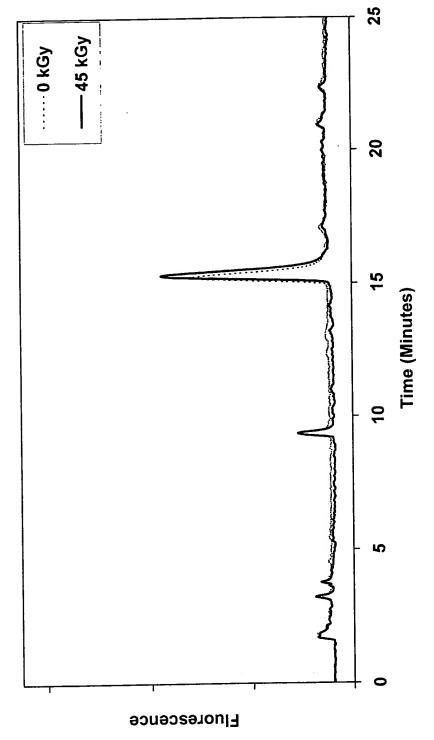


FIG. 17E



Gamma Irradiation of Hydrolyzed Heart Valve Cusps in the Presence of 50% DMSO and Ascorbate

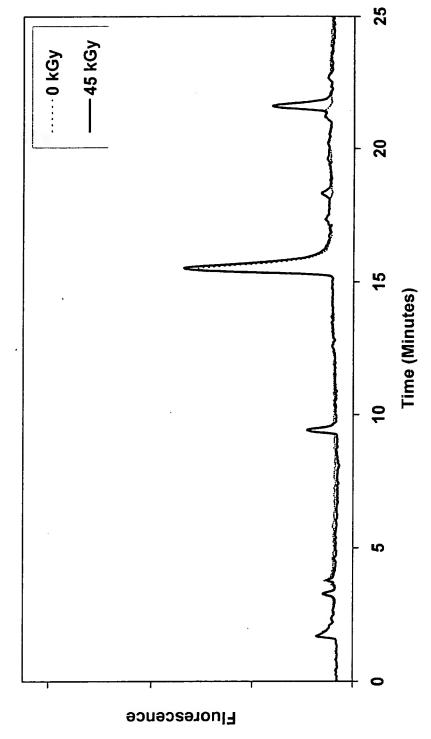


FIG. 17F



Gamma Irradiation of Porcine Heart Valve Cusps in the Presence of Various Solvents



- 2. PBS, 0 kGy
- 3. PBS, 45 kGy
- 4. PBS and Ascorbate, 0 kGy

36.8-

119

98

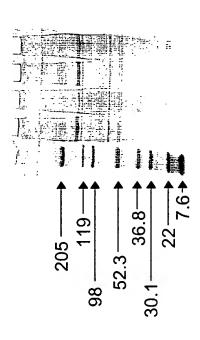
205 -

- 5. PBS and Ascorbate, 45 kGy
- 6. PPG400, 0 kGy
- 7. PPG400, 45 kGy
- 8. Dehydrated in PPG400 and Rehydrated with PBS and Ascorbate, 0 kGy
- 9. Dehydrated in PPG400 and Rehydrated with PBS and Ascorbate, 45 kGy

FIG. 17G



Gamma Irradiation of Porcine Heart Valve Cusps in the Presence of Various Solvents

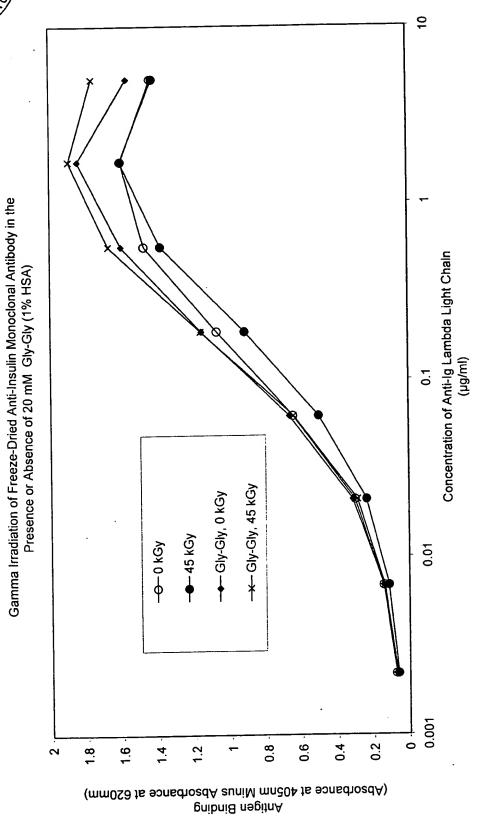


- 1. Molecular Weight Markers
- 2. 50% DMSO, 0 kGy
- 3. 50% DMSO, 45 kGy
- 4. 50% DMSO and Ascorbate, 0 kGy
- 5. 50% DMSO and Ascorbate, 45 kGy

S

FIG. 17F

FIG. 18A



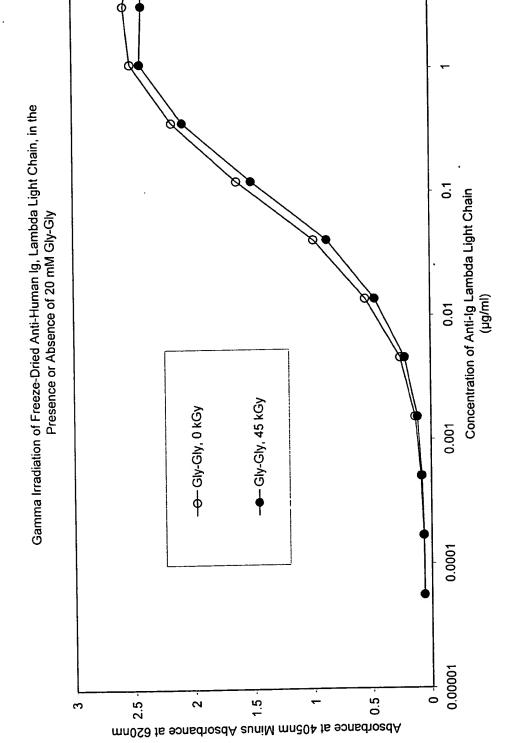


FIG. 18B

9

0.1

Concentration of Anti-Ig Lambda Light Chain

0.01

0.001

0.0001

0.00001

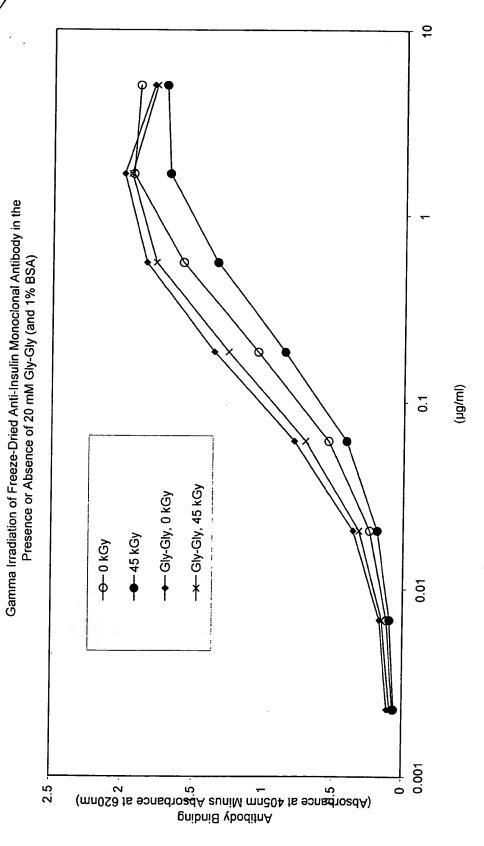
Gamma Irradiation of Freeze-Dried Anti-Human Ig, Lamda Light Chain, in the Presence or Absence of 20mM Ascorbate and 20mM Gly-Gly ——Gly-Gly, 45 kGy -O-Gly-Gly, 0 kGy

Absorbance at 405nm Minus Absorbance at 620nm ...

က

FIG. 18C

FIG. 19A



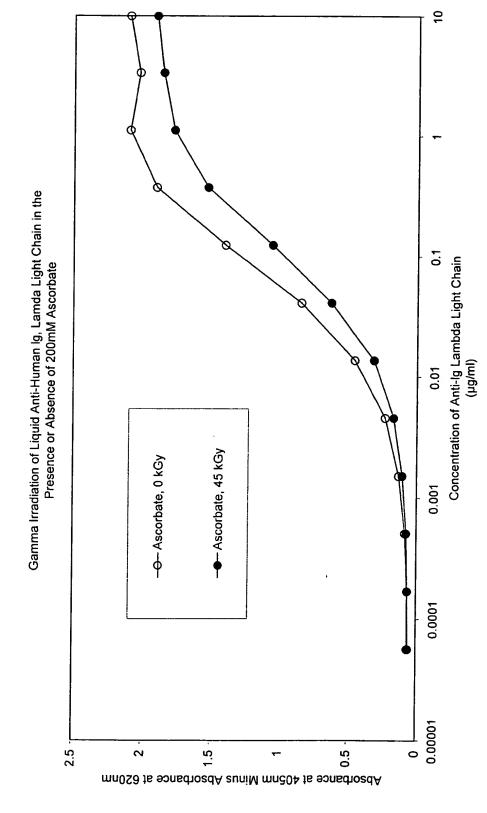


FIG. 2B FIG. 19B

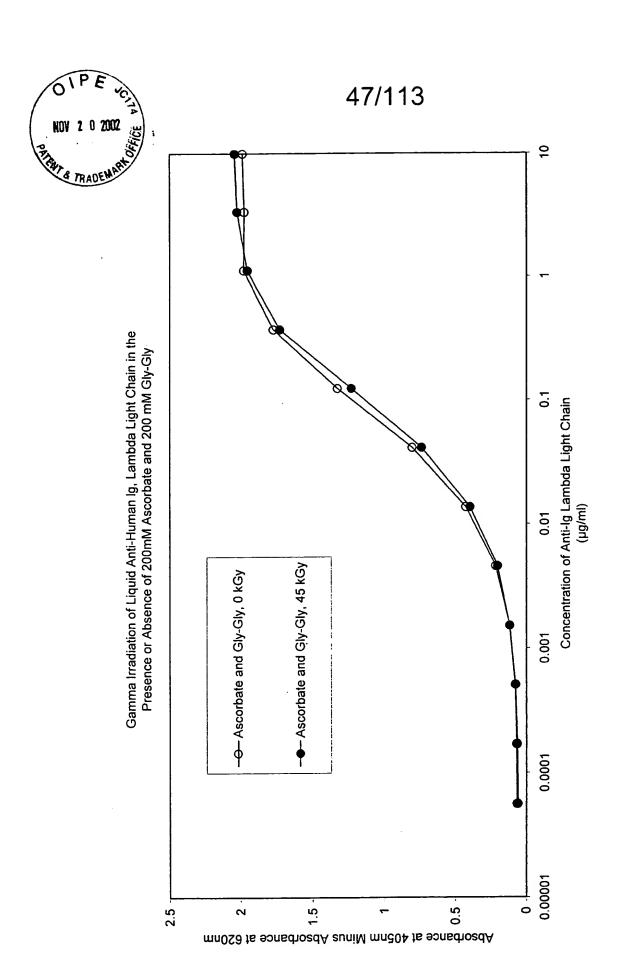


FIG. 19C

Gamma Irradiation of Liquid Anti-Human IgG1 in the Presence of 200 mM Ascorbate

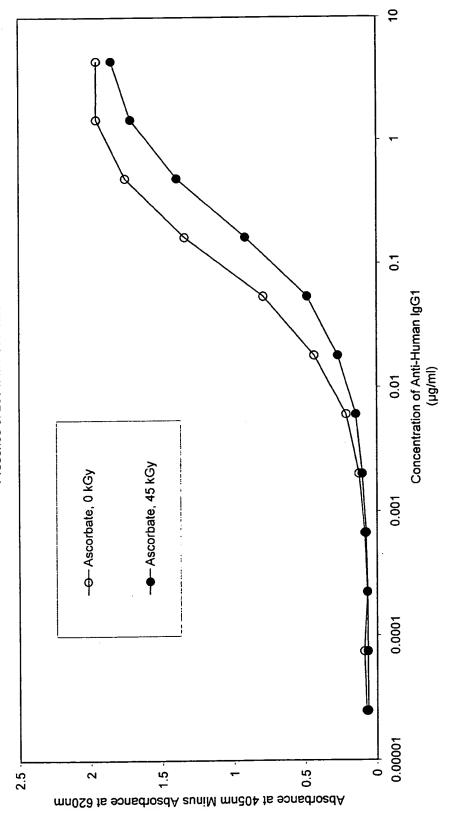
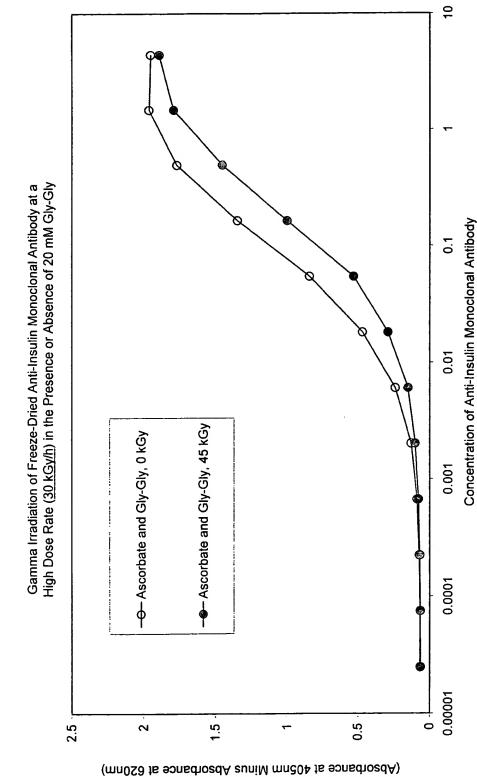


FIG. 19D



ANTIGEN BINDING

FIG. 19E



Gamma Irradiation of Liquid IGIV in the Presence or Absence of 200 mM Ascorbate Using Rubella IgG Assay

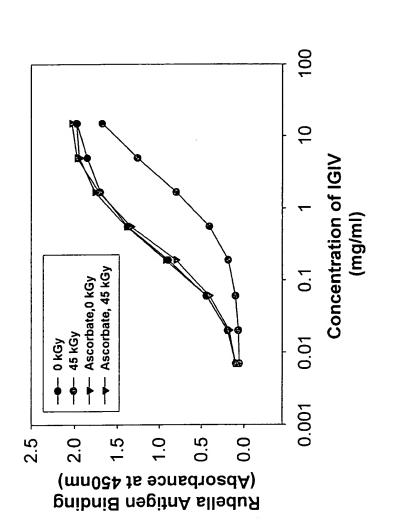


FIG. 20A



Gamma Irradiation of Liquid IGIV in the Presence or Absence of 200 mM Ascorbate and 200 mM Gly-Gly Using Rubella IgG Assay

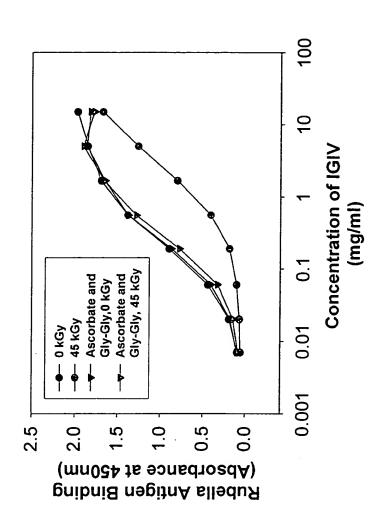


FIG. 20B



Gamma Irradiation of Liquid IGIV in the Presence or Absence of 200 mM Ascorbate and 200 mM Gly-Gly Using Rubella IgG Assay

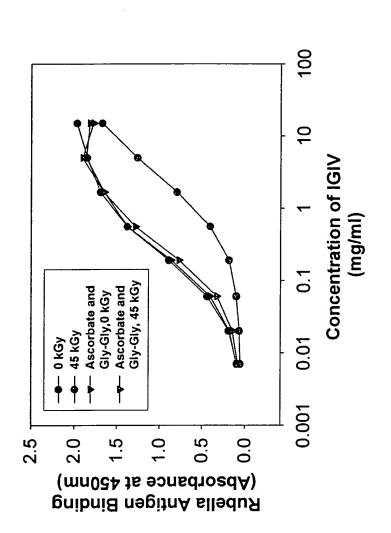


FIG. 20C



Gamma Irradiation of Liquid IGIV in the Presence or Absence of 200 mM Ascorbate Using Mumps Assay

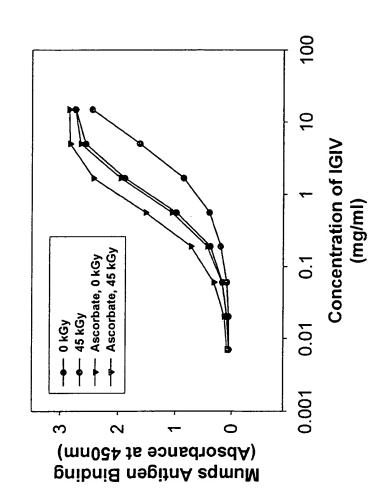


FIG. 20D



Gamma Irradiation of Liquid IGIV in the Presence or Absence of 200 mM Ascorbate and 200 mM Gly-Gly Using Mumps Assay

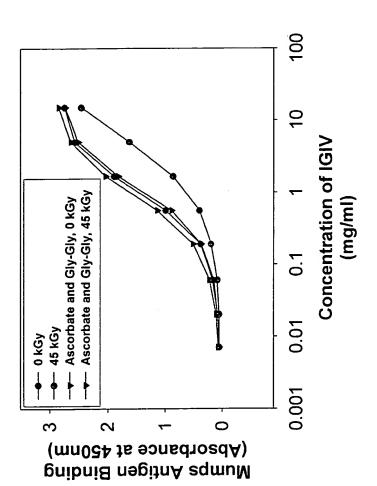


FIG. 20E



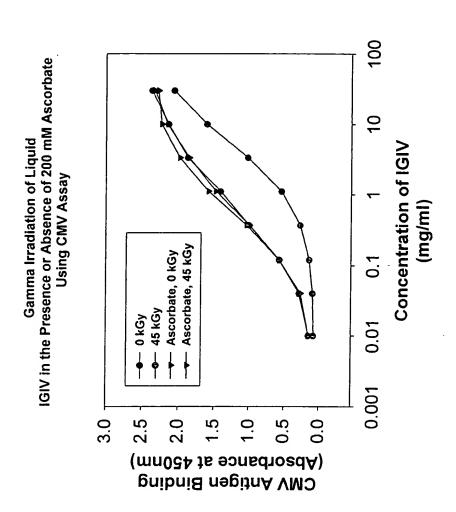


FIG. 20F

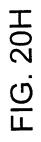


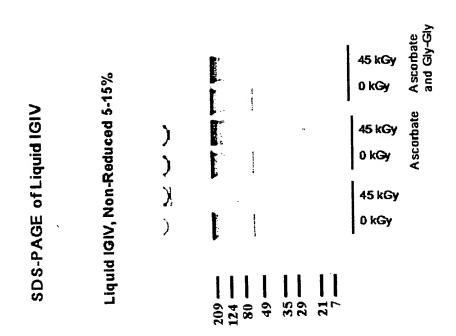
SDS-PAGE of Liquid IGIV

Liquid IGIV, Reduced 5-15%

	٠	Harry Charles	o kGy Sy co kGy o
$\tilde{\mathfrak{D}}$			45 kGy 👨
2			45 kGy gg 0 kGy 00 4
2		 별 	45 kGy
2			0 kGy
	8 4	8 1 1 1	

FIG. 20G





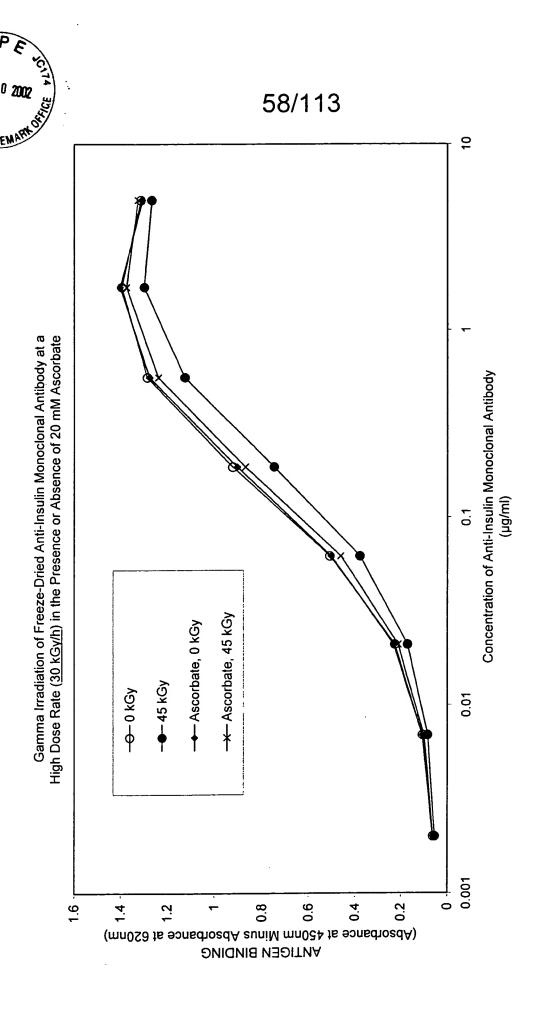
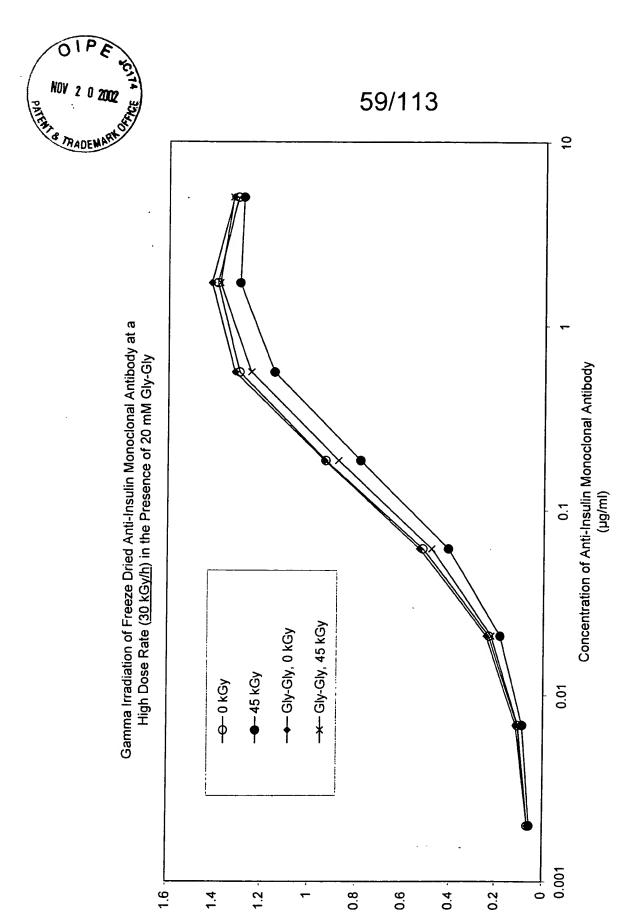


FIG. 21A



ANTIGEN BINDING (Absorbance at 620nm)

FIG. 21B





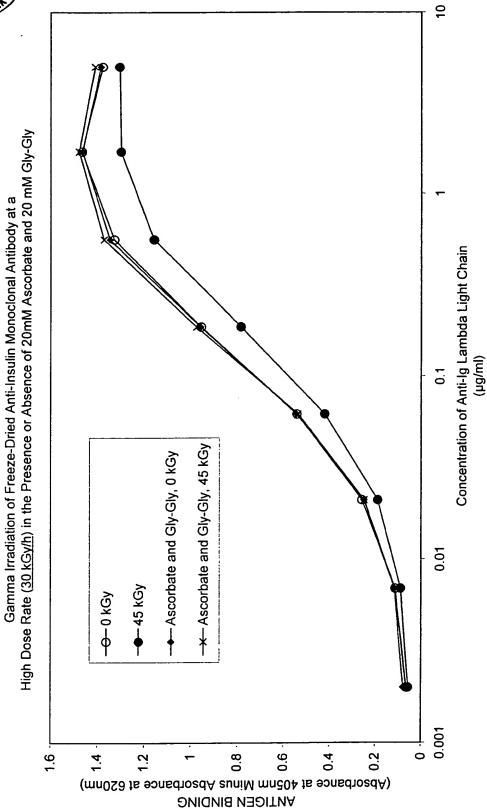


FIG. 21C

5.

(Absorbance at 405nm Minus Absorbance at 620nm) *PNTIGEN BINDING*

2.5

~

FIG. 22A

0

0.5

ä

1.5

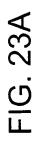
(Absorbance at 405nm Minus Absorbance at 620nm) **ANTIGEN BINDING**

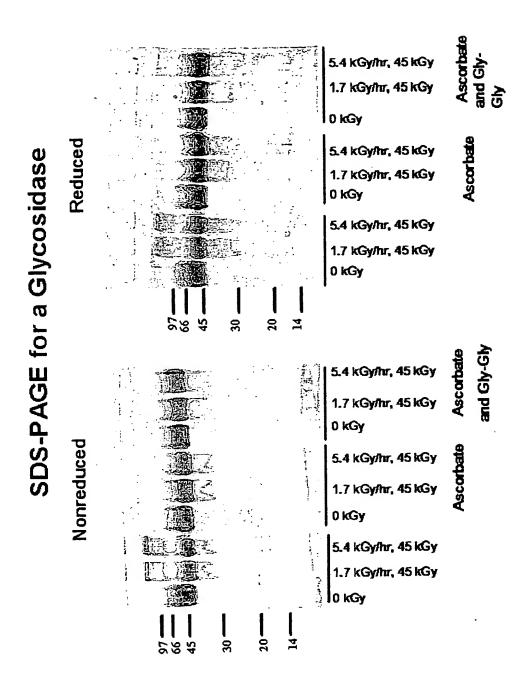
0.5

2.5

NOV 2 0 2002

TAN MADEM

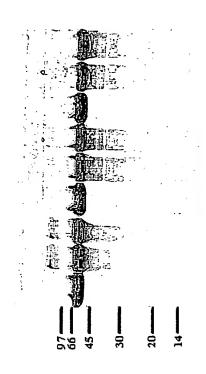






SDS-PAGE for a Sulfastase

Reduced



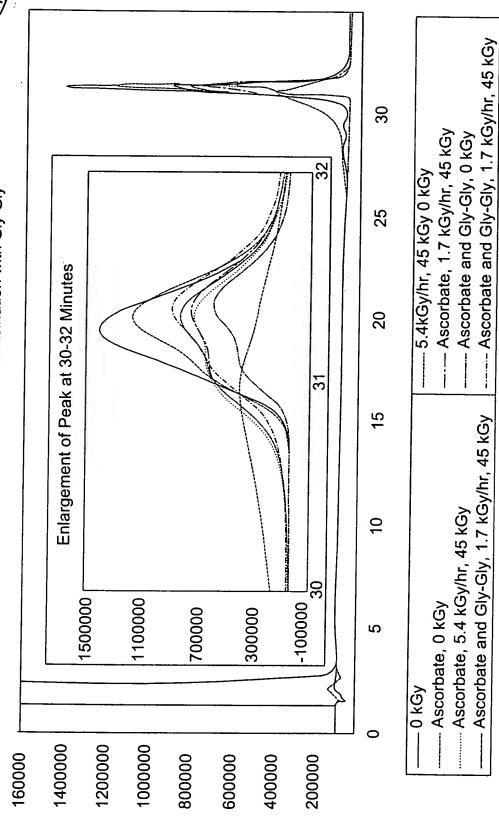
	5.4 kGy/hr, 45 kGy	bate y-Gly
	1.7 kGy/hr, 445 kGy	Ascorband Gly
	0 kGy	A P
-	5.4 kGy/hr, 45 kGy	•
	3.4 kGy/iii, 45 kGy	e e
,	1.7 kGy/hr, 45 kGy	scorbat
	0 kGy	As
1		
-	5.4 kGy/hr, 45 kGy	
	1.7 kGy/hr, 45 kGy	
	0 kGy	

FIG. 23B

OIPE CATA

65/113

Gamma Irradiation of a Glycosidase In the Presence or Absence of Ascorbate Alone or in Combination with Gly-Gly



mVolts.

FIG. 24



66/113

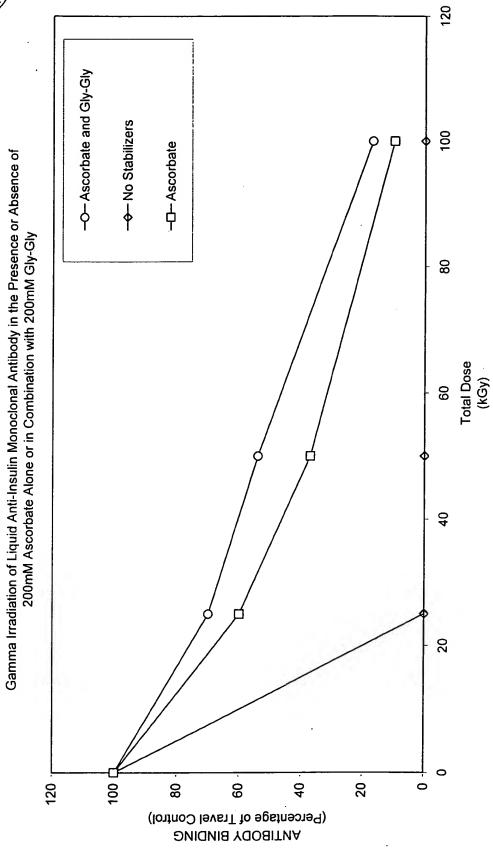


FIG. 25

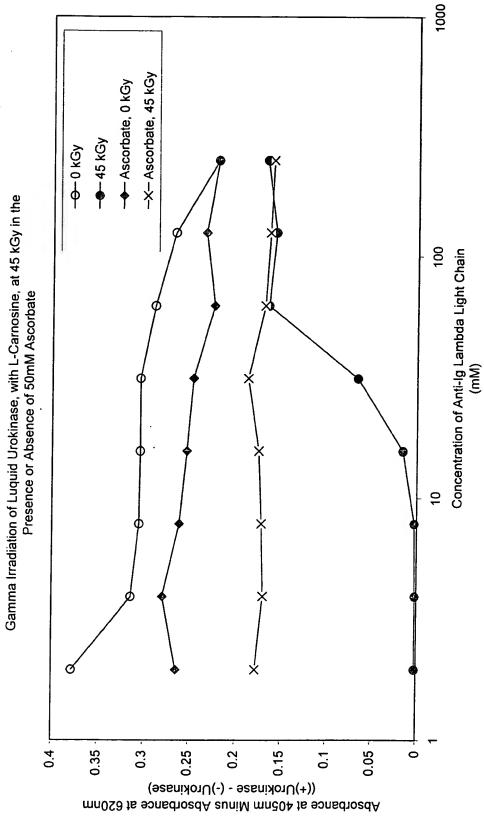


FIG. 26



68/113

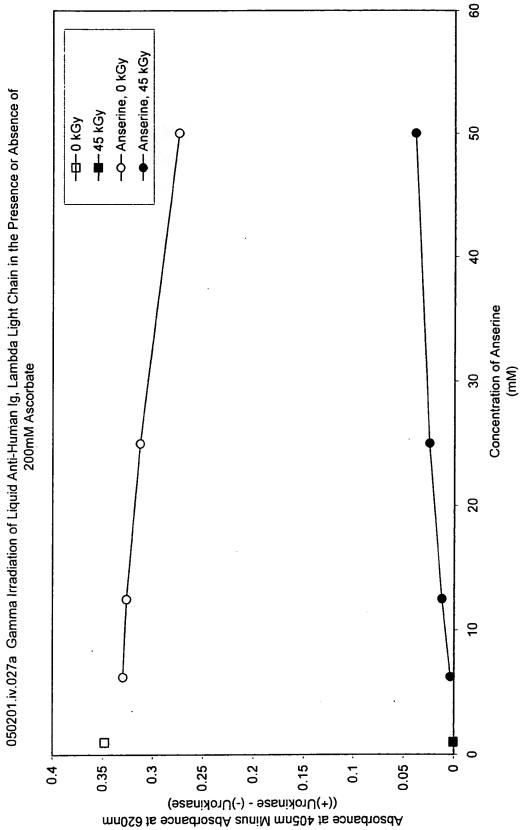


FIG. 27



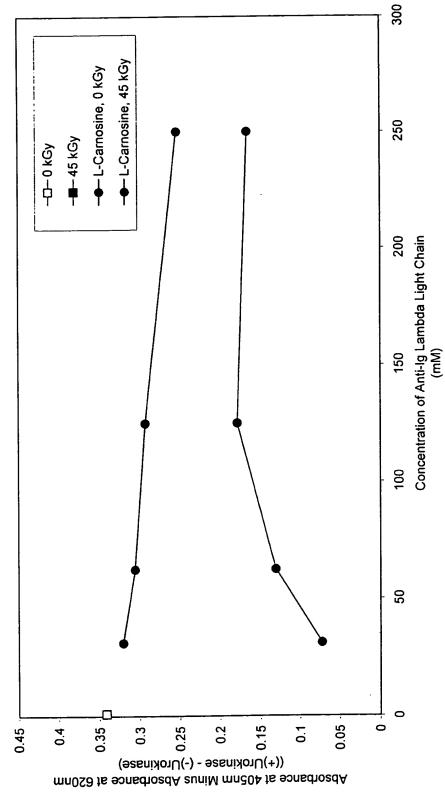


FIG. 28

FIG. 29



71/113

--- 200 mM Ascorbate, 45 kGy -0-200 mM Ascorbate, 0 kGy -□-50 mM Ascorbate, 0 kGy → 45 kGy **→**0 kGy 250 Gamma Irradiation of Immobilized Monoclonal Antibody in the Presence or Absence of L-Carnosine and Ascorbate 200 Concentration of L-Carnosine (mM) 50 0.5 0 ~ Absorbance at 405nm Minus Absorbance at 620nm

FIG. 30

72/113

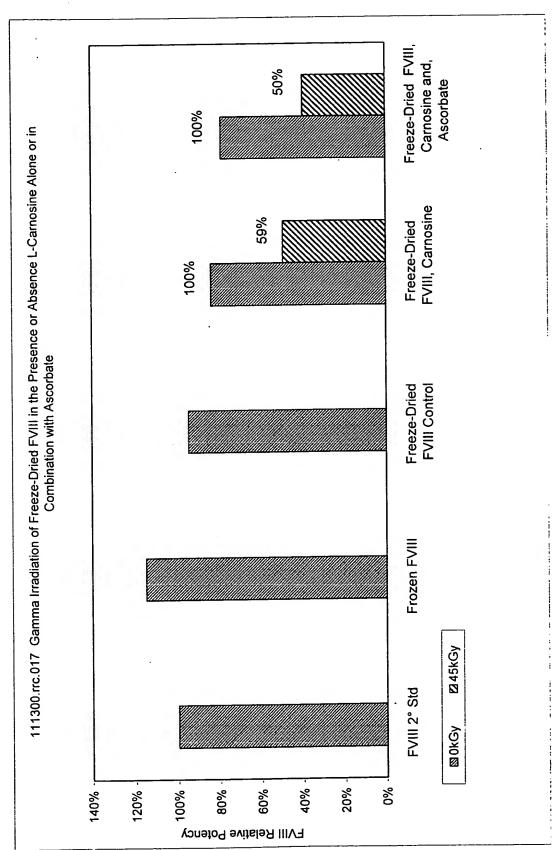


FIG. 31



73/113

Gamma Irradiation of Dried and Powder PPF

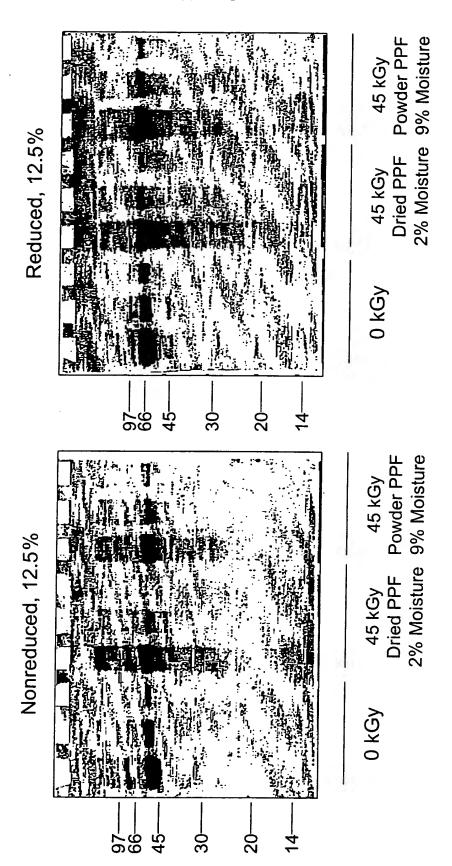


FIG. 32A



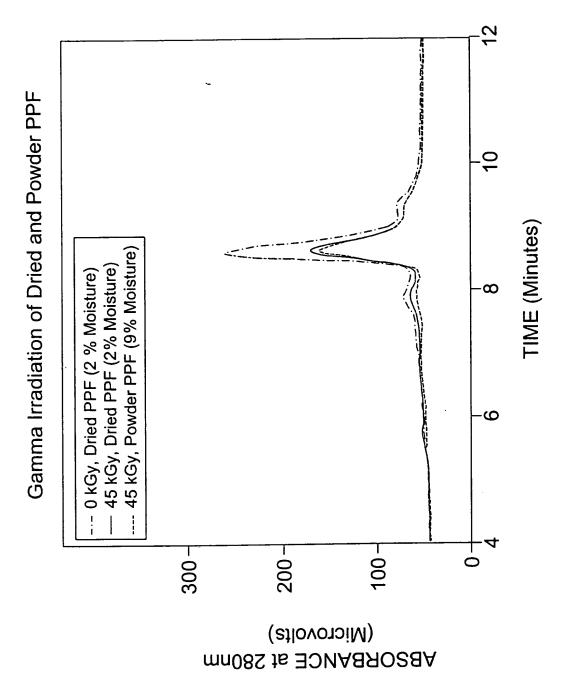


FIG. 32B



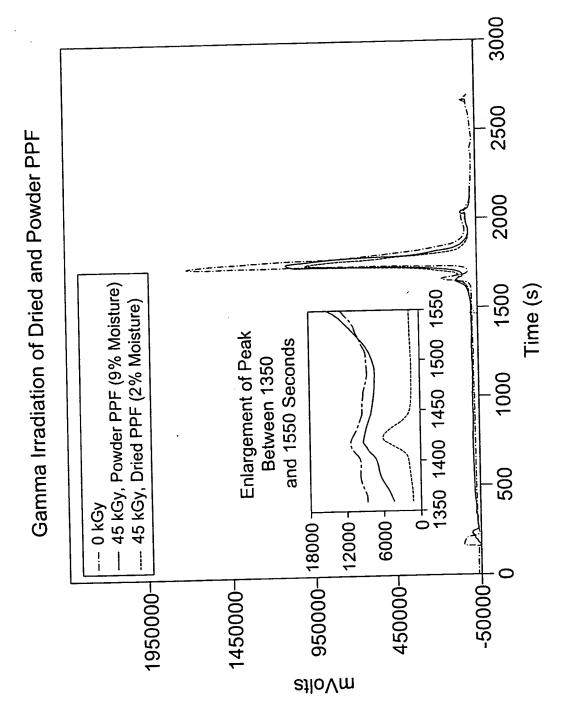
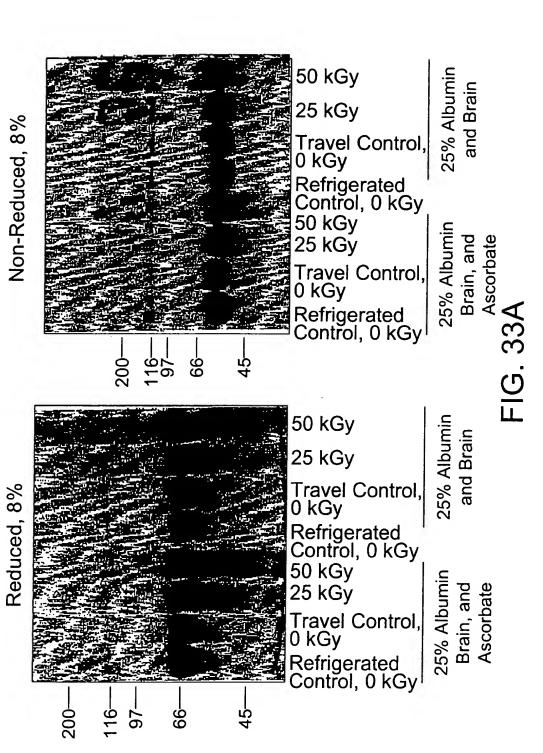


FIG. 32C



Gamma Irradiation (to 25 and 50 kGy)
of 25% Albumin in the Presence of Brain Alone
or in Combination with 200 mM Ascorbate





Gamma Irradiation (to 25 and 50 kGy) of 25% Albumin in the Presence or Absence of 200 mM Ascorbate

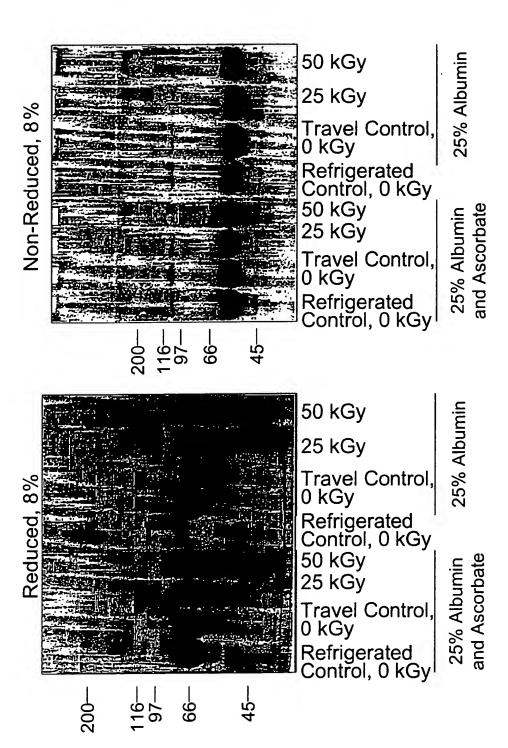


FIG. 33B



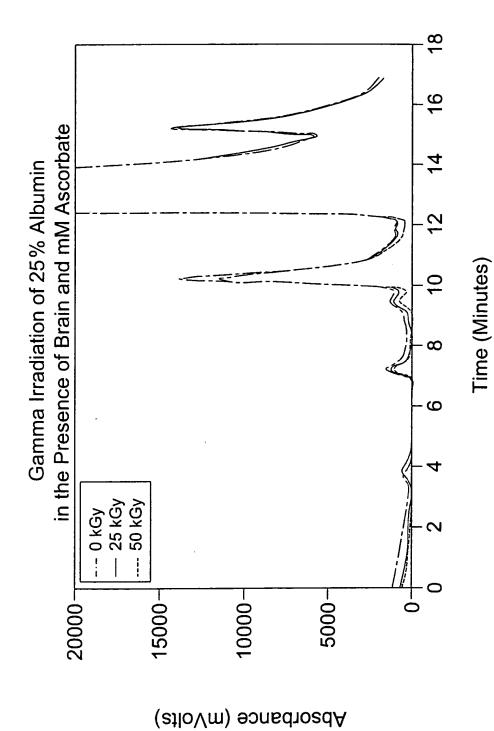


FIG. 33C



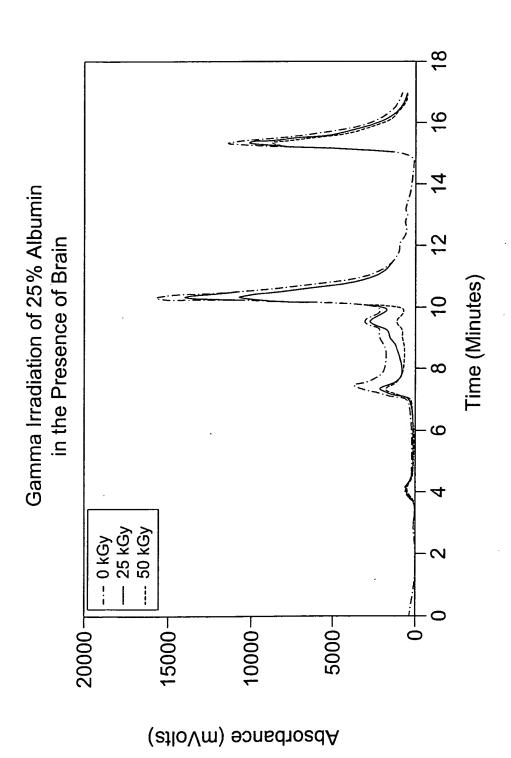
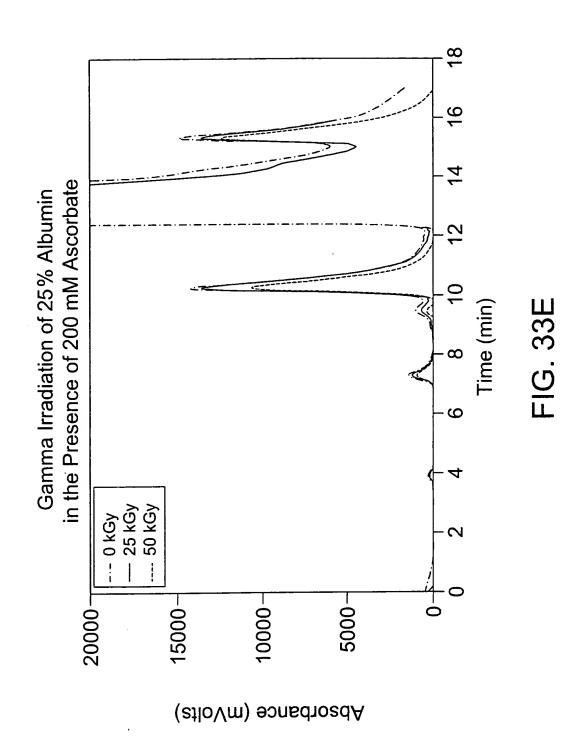


FIG. 33D







Gamma Irradiation of 25% Albumin

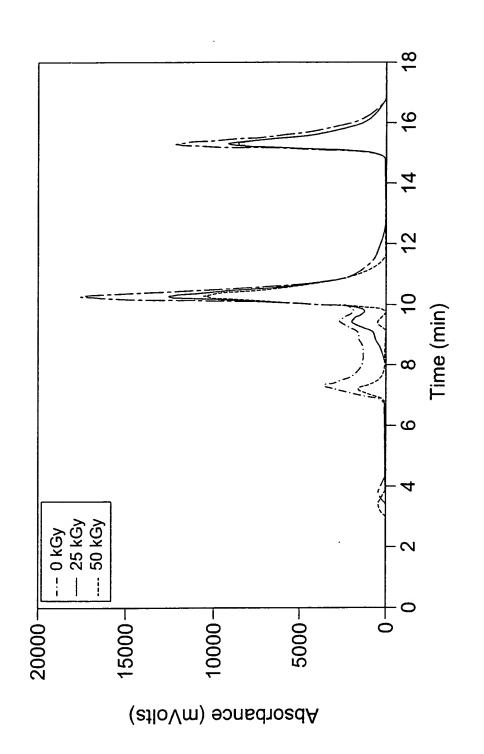
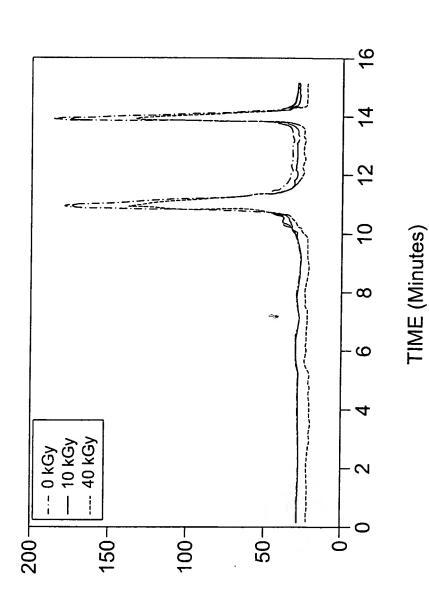


FIG. 33F



Gamma Irradiation of Lyophilized Albumin

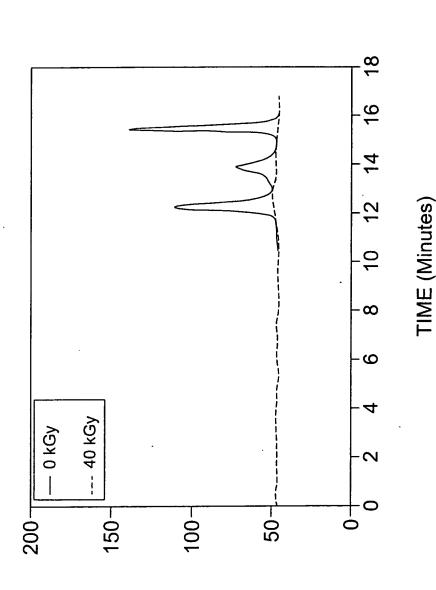


Absorbance at 280 (Microvolts)

FIG. 34A



Gamma Irradiation of Liquid Albumin



Absorbance at 280 (Microvolts)

FIG. 34B



25% Albumin - Non-Reduced

2
$\overline{}$
$\overline{}$
÷
0
$\stackrel{\leftarrow}{\sim}$
တ
∞
7
-
9
5
4
_
က
\sim
$\overline{}$
-

	Std	Lane	Lane Sample
	정	-	Empty
		7	Broad Range Std. (BioRad)
	200	က	Empty
	116	4	0 Kgy (Control) Box 3C (+ Ar)
	26	2	18.0 Kgy (~0.91 Kgy/hr) Box 1 (+ Ar
: .	99	9	23.0 Kgy (~ 0.92 Kgy/hr) Box 2 (+ Ar
.•	45	7	30.4 Kgy (~1.01 Kgy/hr) Box 3 (+ Ar
		ω	0 Kgy (Control) Box 3C (- Ar)
ì	31	တ	18.0 Kgy (~ 0.91 Kgy/hr) Box 1 (- Ar)
	21.5	10	23.0 Kgy (~0.92 Kgy/hr) Box 2 (- Ar)
	14.4	-	30.4 Kgy (~1.01 Kgy/hr) Box 3 (- Ar)
		12	Empty

FIG. 35A

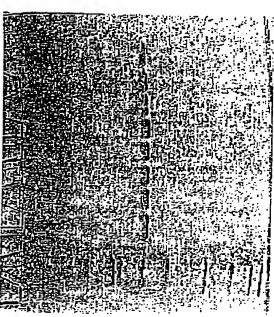


25% Albumin - Reduced

123456789101112

<u>Lane Sample</u> 1 Empty	Broad Range Std. (BioRad)	Empty	0 Kgy (Control) Box 3C (+ Ar)	18.0 Kgy (*0.91 Kgy/hr) Box 1 (+ A	23.0 Kgy (~0.92 Kgy/hr) Box 2 (+ A	30.4 Kgy (~1.01 Kgy/hr) Box 3 (+ Ar)	0 Kgy (Control) Box 3C (- Ar)	18.0 Kgy (* 0.91 Kgy/hr) Box 1 (- A	23.0 Kgy (* 0.92 Kgy/hr) Box 2 (- Ar)	30.4 Kgv (~1.01 Kgv/hr) Box 3 (- A	1) o wood / / 60
<u>Lane</u>	7	က	4	2	9	7	ω	တ	10	7	7
Std Kd		200	116	97	99	45		31	21.5	14.4	

-1G. 35B



Gamma Irradiation of Powder PPF at -20°C Reduced

97 66 45

FIG. 36A

Gamma Irradiation of Powder PPF at -20°C

87/113

Nonreduced 45-

FIG. 36B

88/113

Gamma Irradiation of PPF

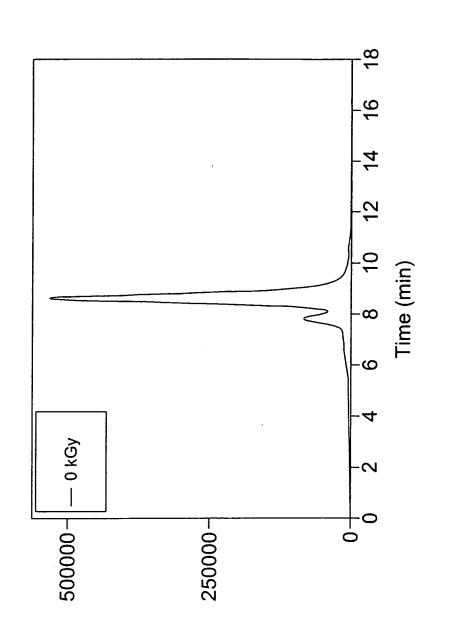
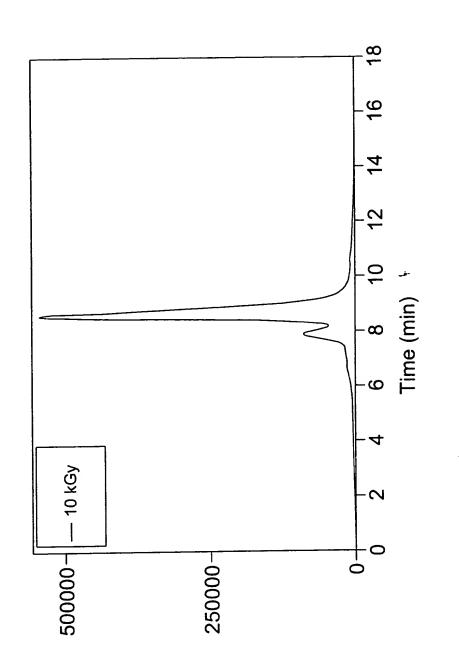


FIG. 36C

Gamma Irradiation of PPF



89/113

90/113

Gamma Irradiation of Powder PPF

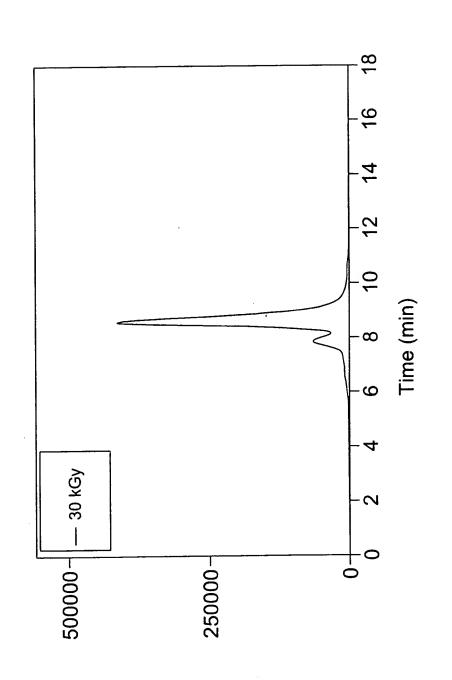
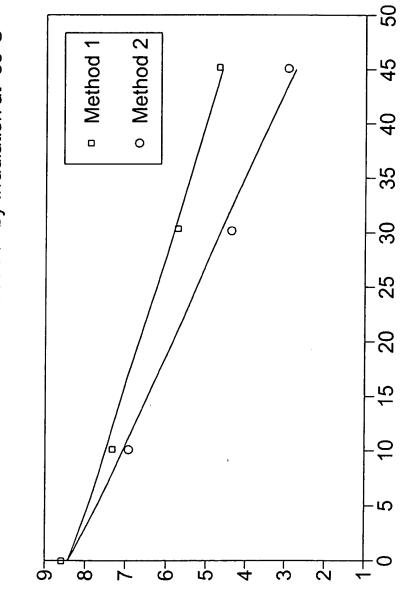


FIG. 36E

20 15 Gamma Irradiation of Powder PPF Time (min) — 50 kGy 500000 250000-



Gamma Irradiation of PPV in PPF by Irradiation at -80°C



TCID50 Viral Titer (Log 10)

FIG. 37A

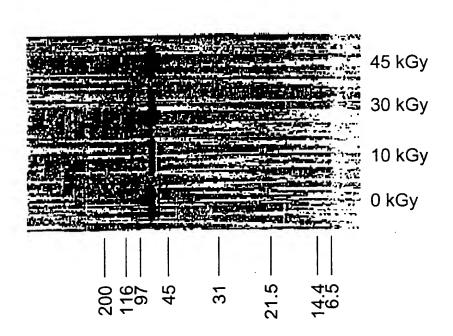
Radiation Dose (kGy)

Gamma Irradiation of PPF By Method 2

Nonreduced, 12.5%

Reduced, 12.5%

FIG. 37B





Gamma Irradiation of PPF By Method 1

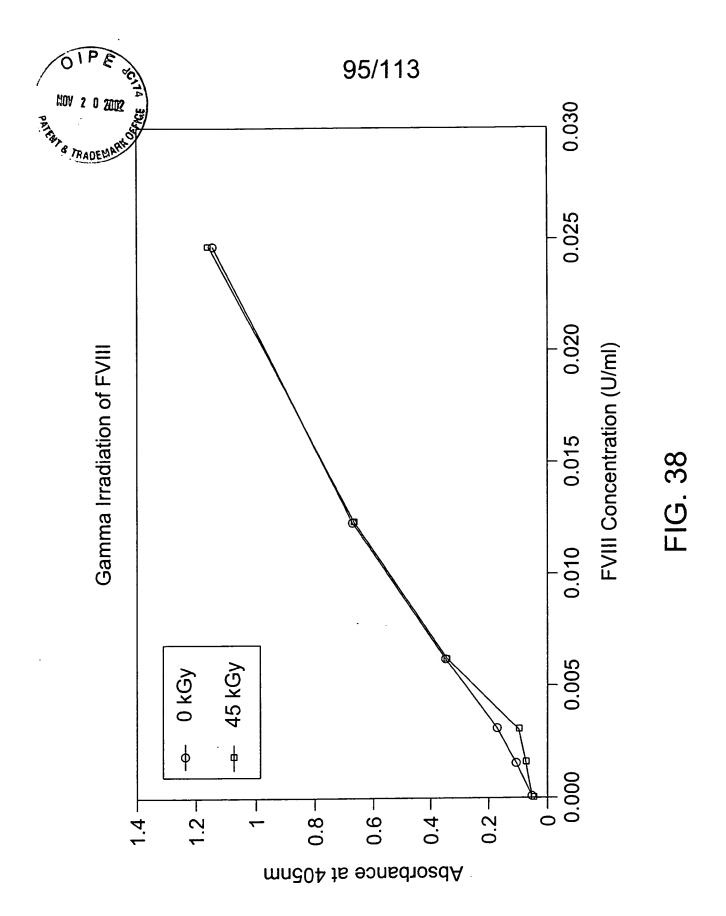
Reduced, 12.5% 0 kGy 200 -116 -97 -6.5 31 Nonreduced, 12.5% 45 kGy 30 kGy 10 kGy 0 kGy 200 – 116 – 97 – 31

FIG. 37C

45 kGy

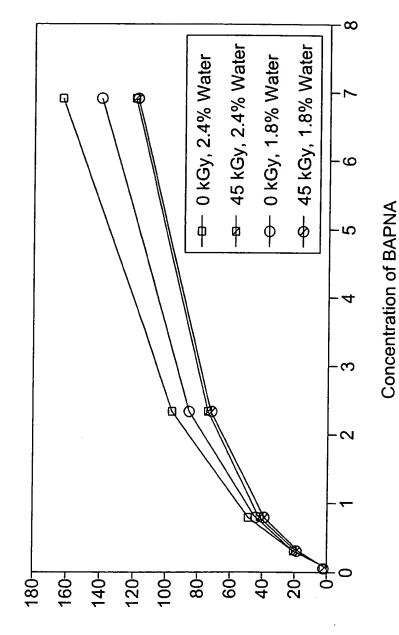
30 kGy

10 kGy





Gamma Irradiation of Lyophilized Trypsin in the Absence of Ascorbate



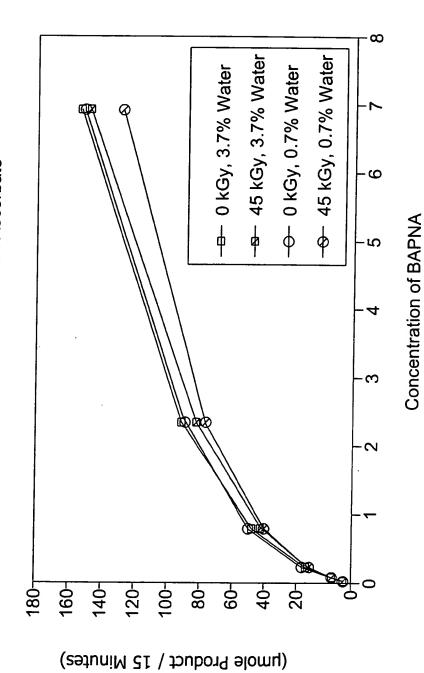
Velocity (µmole Product / 15 Minutes)

(mm)

FIG. 39A



Gamma Irradiation of Lyophilized Trypsin in the Presence of 100 mM Ascorbate



Velocity

(mM) FIG. 39B



98/113

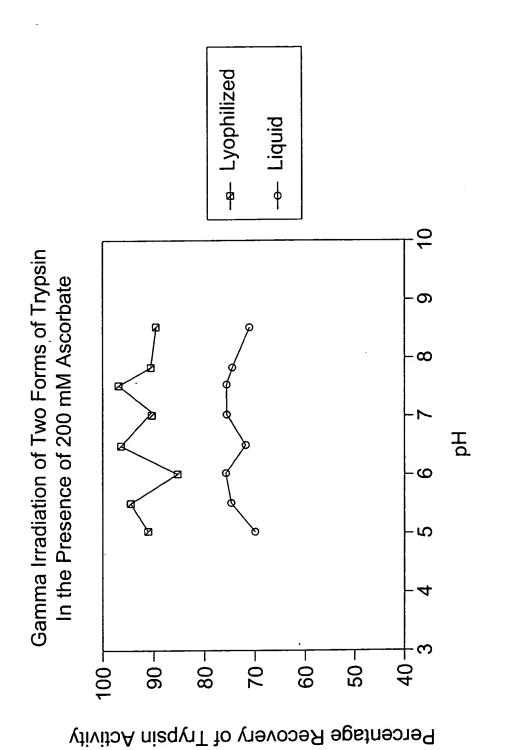


FIG. 40



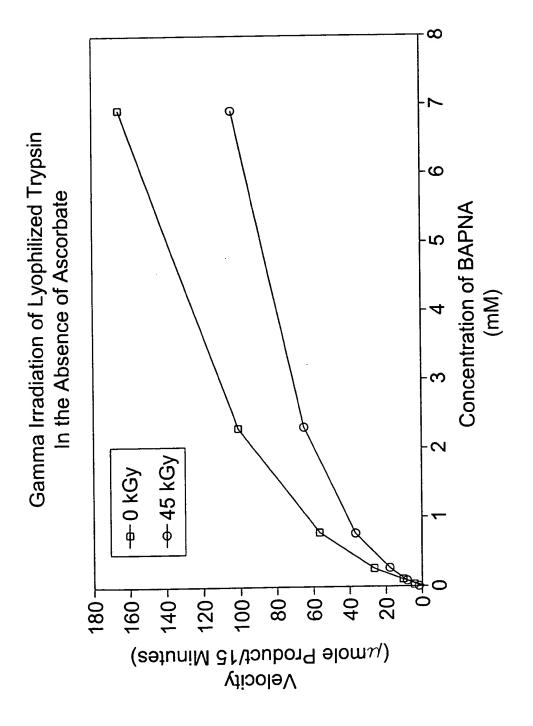


FIG. 41A



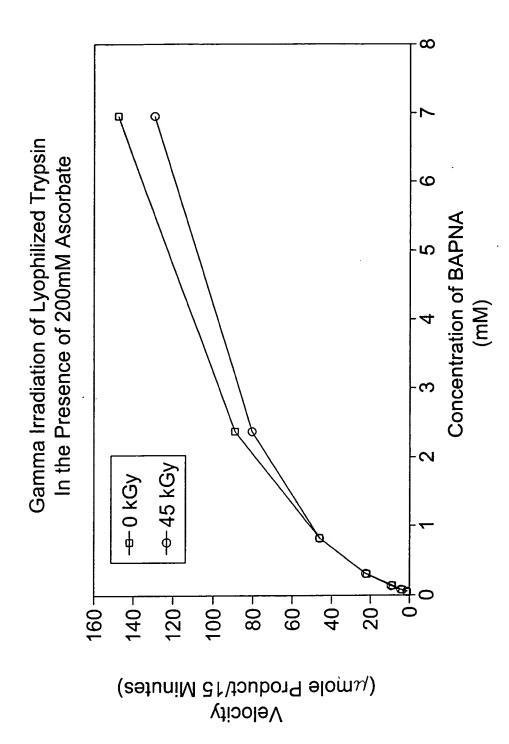


FIG. 41B



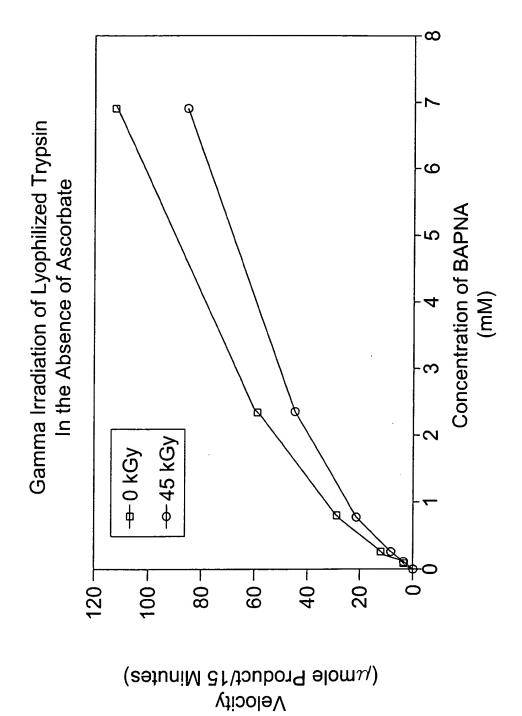
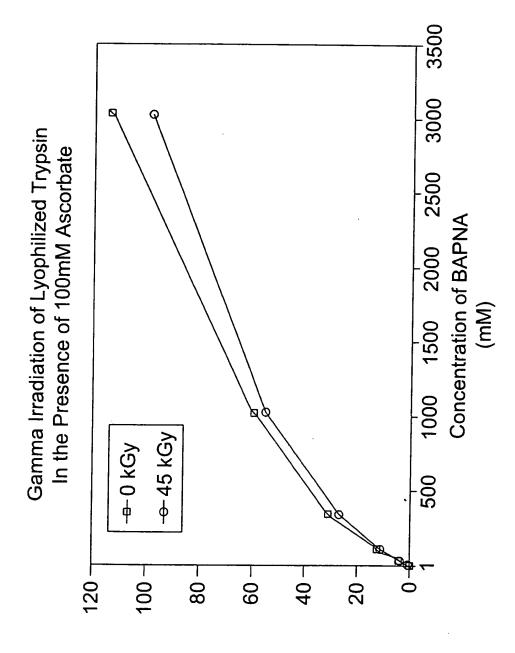


FIG. 42A



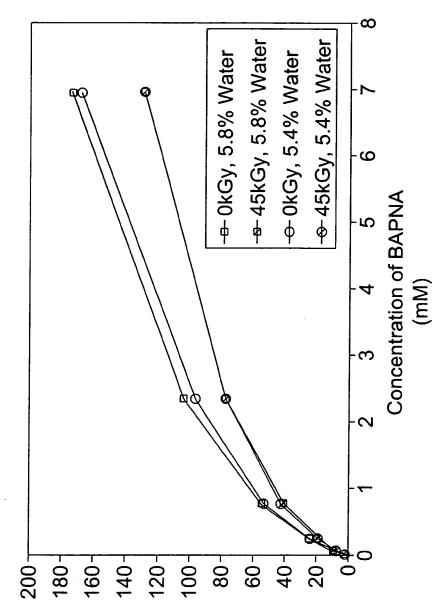


Velocity (μ mole Product/15 Minutes)

FIG. 42B



Gamma Irradiation of Lyophilized Trypsin In the Absence of Ascorbate

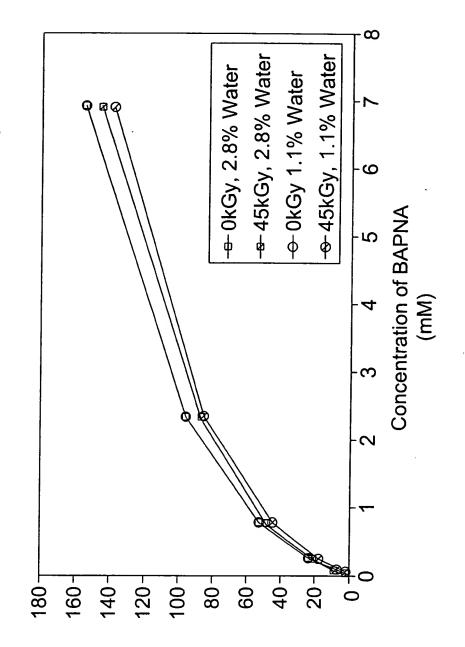


Velocity (μ mole Product/15 Minutes)

FIG. 43A



Gamma Irradiation of Lyophilized Trypsin In the Presence of 100 mM Ascorbate

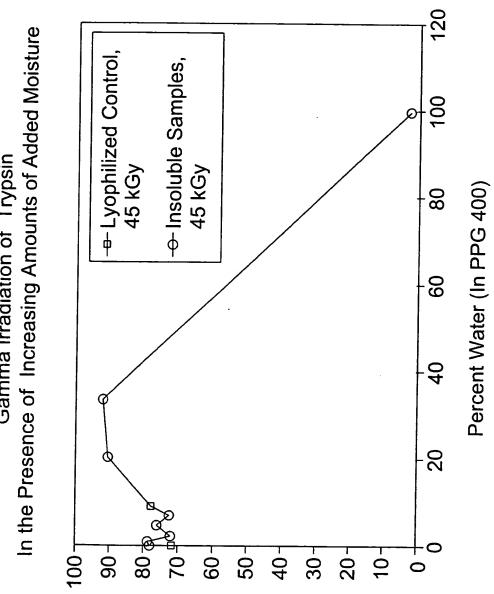


Velocity (μ mole Product/15 Minutes)

FIG. 43B



Gamma Irradiation of Trypsin



Unirradiated Sample) (Activity of Irradiated Sample / Activity of Percent Protection



900 -8-45 kGy, 1.5mM Uric Acid -a-0 kGy, 1.5mM Uric Acid Gamma Irradiation of Trypsin In the Presence of 500 Increasing Concentrations of Ascorbate **→** 45 kGy 400 **⊕** 0 kGy 300 ФФ 200 100 1.5-9.0 -9.0 0.3

Trypsin Activity (Absorbance at 405 nm Minus Absorbance at 620nm, 20 Minutes Minus 2 Minutes)

(mM) FIG. 45

Concentration of Ascorbate

107/113

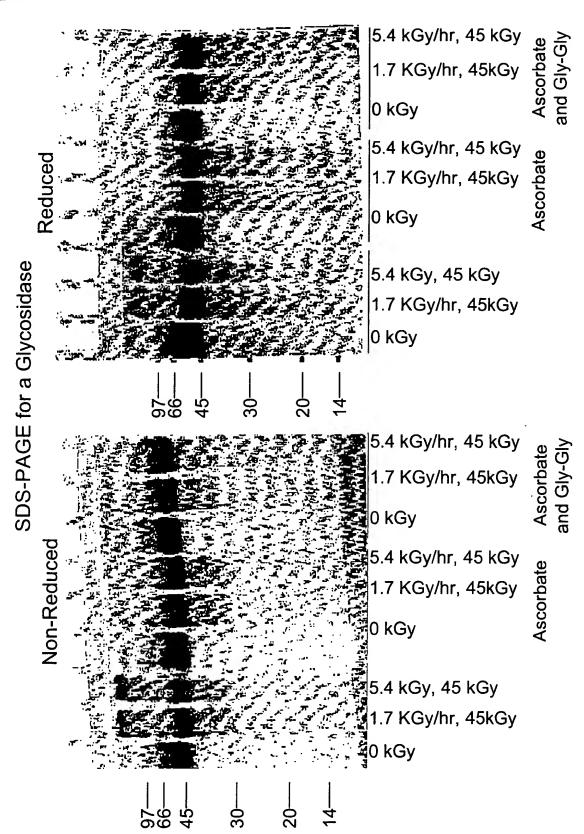
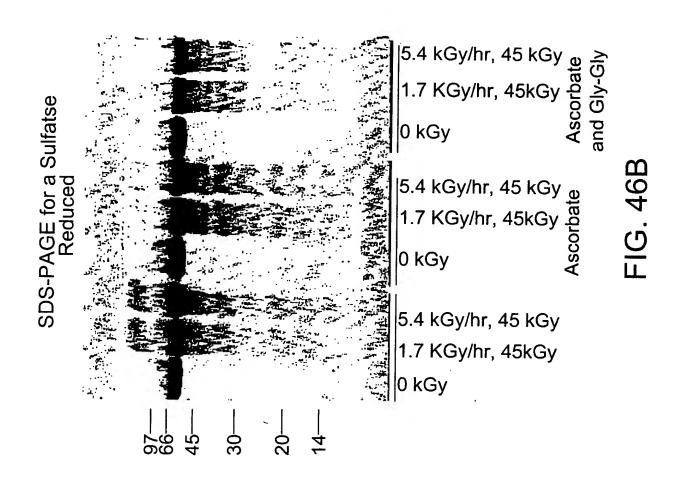


FIG. 46A

108/113



mVolts

0

FIG. 47

Gamma Irradiation of a Lyophilized Glycosidase and Sulfatase In the Absence and Presence of 100mM Ascorbate

ase		n .	45 kGy 0 kGy	With Ascorbate
Sulfatase			45 kGy 0 kGy	Without Ascorbate

45 kGy With
0 kGy Ascorbate

45 kGy Without
0 kGy Ascorbate

Glycosidase

200—
124—
80—
49—
49—
35—
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 — 7
7 —



Gamma Irradiation of a Lyophilized Glycosidase In the Absence of Stabilizers

Reduced & Non-Reduced, 10%

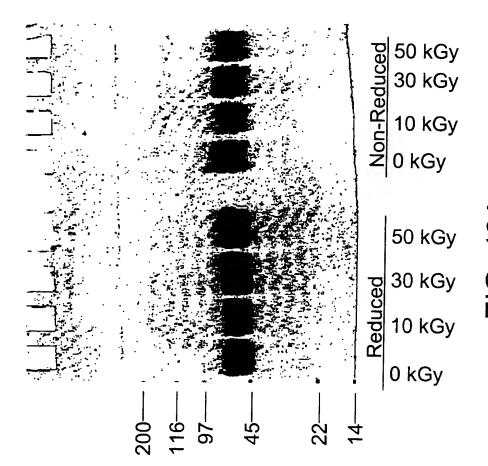


FIG. 49A



Gamma Irradiation of a Lyophilized Glycosidase

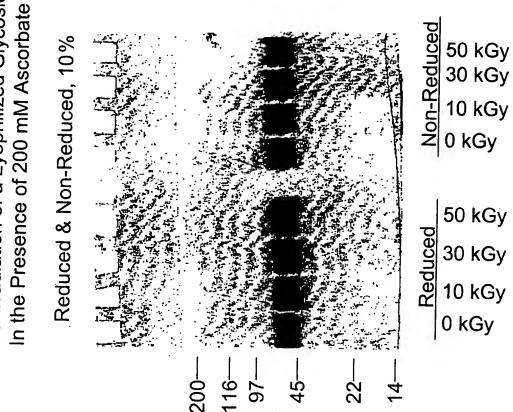


FIG. 49B



In the Presence of 200 mM Ascorbate and 200 mM Gly Gly Gamma Irradiation of a Lyophilized Glycosidase

Reduced & Non-Reduced, 10%

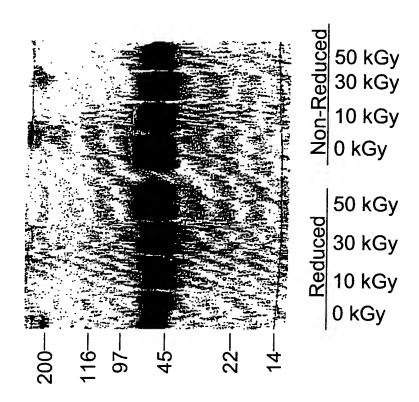


FIG. 49C